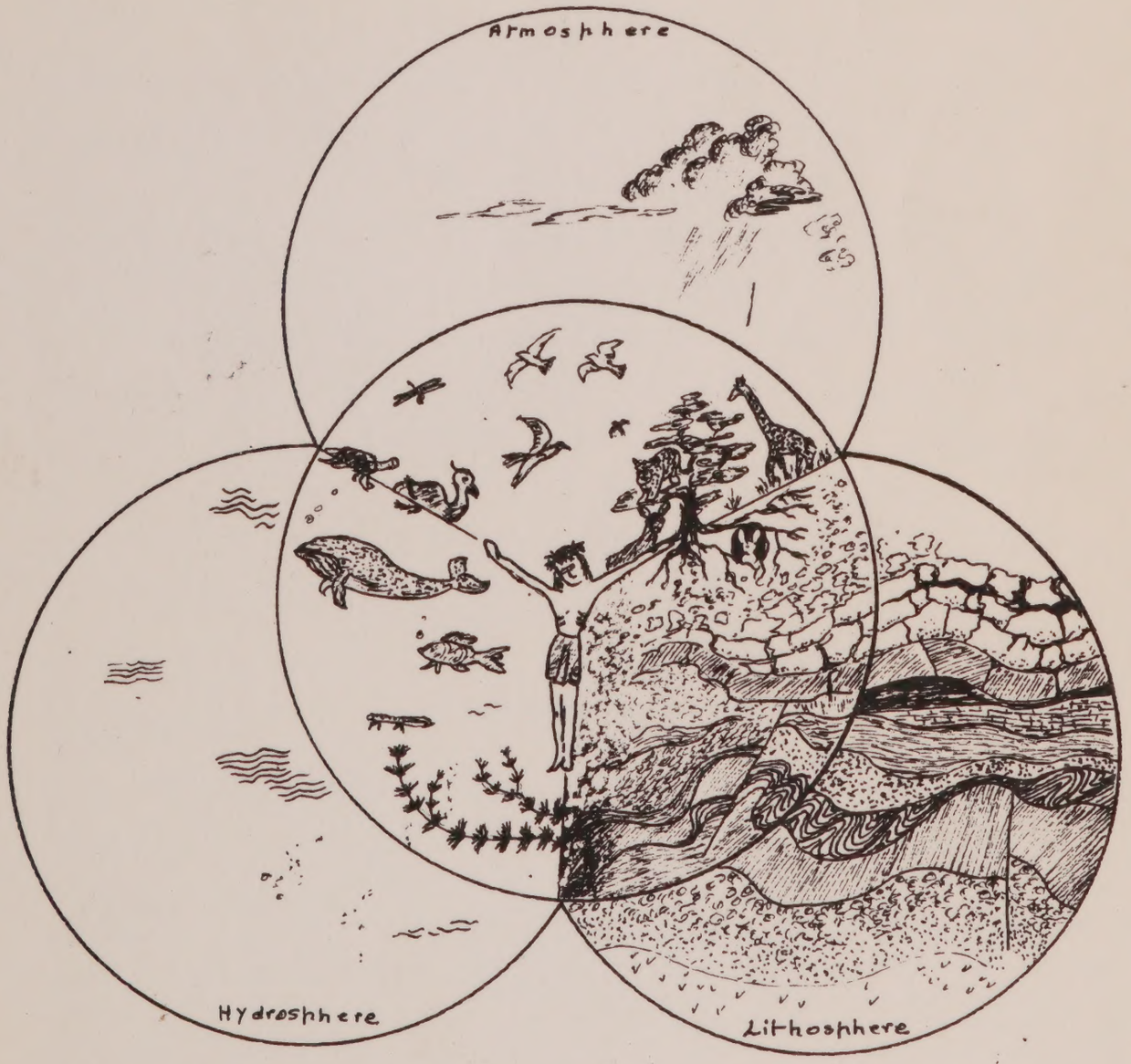
Church and Society

REPORT AND BACKGROUND PAPERS
MEETING OF THE WORKING GROUP
GLION, SWITZERLAND, SEPTEMBER 1987



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AGENDA FOR
CHURCH AND SOCIETY WORKING COMMITTEE SESSIONS

Monday, 7 Sept.	1.	-	Report of the work on social ethics.
		-	Report of the work on the theology of nature and life-centred ethic.
		-	Director's Report.
	2.	-	Report of the Amsterdam meeting: Reintegrating Creation.
		-	Report of joint meetings between Faith and Order and Church and Society.
	3.	-	Presentation on Marshall Islands by D. Keju-Johnson.
Tuesday, 8 Sept.	1.	-	Discussion in core groups.
	2.	-	Excursion to Château de Chillon and Vineyards.
	3.	-	Presentation on the Social Ethical Writing of the WCC by Prof. J. M. Gustafson.
Wednesday, 9 Sept.	1.	-	Discussion in core groups.
	2.	-	Presentation on Nuclear Power, by Prof. Kosta Tsipis.
	3.	-	Discussion in core groups.
Thursday, 10 Sept.	1.	-	Plenary, preliminary reports of groups.
	2.	-	Discussion in core groups.
	3.	-	Discussion in core groups.
Friday, 11 Sept.	1.	-	Business Meeting. Election of executive.
	2.	-	Plenary. Group reports.
	3.	-	Plenary. Group reports debated and finalised.

LIST OF PARTICIPANTS

The Most Rev. John Habgood
Prof. Charles Birch
Rev. Susan Eagle
Propst Dr. Heino Falcke
Bishop Feofan of Kashira
Giff Johnson
Dr. Antony Houbanchev
Darlene Keju-Johnson
Dr. Mady Laeyendecker-Thung
Prof. Dr. Theodor Leuenberger
Prof. Rolando Mendoza
Dr. Jesse Mugambi
Prof. T. K. Oomen
Pirrko Pentilla
Dr. Ulrich Ratsch
Prof. Kosta Tsipis

Consultants

Prof. James Gustafson
Dr. Arthur Peacocke
Rev. Dr. Ronald Preston
Dr. David Trickett

Interpreters

Dorli Benes
Natalia Chrnyh
Roswitha Ginglas-Poulet
Ingrid Jonas

Staff

Rev. Dr. Emilio Castro, General Secretary
Dr. Todor Sabev, Moderator - Unit I
Rev. Dr. David Gosling
Dr. Freda Rajotte
Dr. Irmgard Kindt
Bernd Schulze
Veronika Vaz
Margot Wahl

THE CONTEXT OF THIS REPORT

The theological perceptions which should inform Christian participation in society have been the central theme of ecumenical social ethics for many years. The call was first formulated as a search for the "responsible society". To this have been added other dimensions such as the demand for international economic responsibility and the right for people to participate in their political and economic future. More recently there has emerged a recognition of the need for responsibility in the wise use of limited resources and care and replenishmnet of renewable resources. Cumulatively, this laid the foundation for the quest for the "just, participatory and sustainable society" (JPSS) which was expressed with great clarity by the WCC in the late 1970s. The Vancouver Assembly in 1983 further sharpened this perception by stressing "justice and peace for the whole world and respect for the integrity of all creation."

Unit I - Faith and Witness

"Church and Society", together with the other sub-units "Faith and Order", "Dialogue with People of Living Faiths" and the "Commission on World Mission and Evangelism" constitute Unit I (Faith and Witness) of the WCC.

When the Committee for Unit I reviewed its work in Geneva (16 - 24 January 1987), many creative inter-relations between the sub-units became apparent. It was claimed:

"Faith as we seek to express it is apostolic, formed in the lives of those sent by Christ. So mission and theology are bound together. We cannot witness to Christ except in the context of the world we live in, so we seek to understand society and the powers which shape our lives. And we meet other people with their own convictions whenever we express ours. This meeting of convictions is ground for dialogue and witness. Faith and witness is thus more than the name of a Unit; it is also a description of the movement of the Holy Spirit in the lives of disciples."

The Task of the Church and Society Sub-unit

At the joint meeting of Church and Society and other Unit I sub-groups at Potsdam (July 1986) three major areas of concern were outlined for further study:

(i) A Theology of Nature

The churches lack a credible theology of nature which takes into account the discoveries and insights of biblical studies, science and dialogue with other religious traditions and ideologies. Such a theology would take into account the rich tradition of the Orthodox Church in its holistic approach towards the created order. It would also include the relation of God to the origin and evolution of life as seen by science. In addition, the study would attempt to analyse different views of nature.

It is envisaged that the study would make a contribution to the overall WCC theme of Justice, Peace and the Integrity of Creation by continuing the collaborative work initiated by Faith and Order and Church and Society at York in April 1986.

(ii) The Value of Life and a Life-centred Ethic

A theology of nature will have implications for ethical reflection on environmental issues and the value of life. In particular, a life-centred ethic will include the dimension of justice and peace as well as that of the integrity of creation. The aim of this section of the study is to provide the churches with a suitable framework for evaluating the relationship of human beings to other living species with particular reference to the concepts of intrinsic/instrumental value. The study will also cover the issue of conservation of nature (both species and habitats) especially urgent cases such as tropical rain forests and regions of desertification.

It is suggested that a re-evaluation of humanity's relation to nature in the light of the above considerations will lead to a more responsible stewardship of the earth's resources and suggest possible alternatives to current models of development.

(iii) A Study in Ecumenical Social Ethics

There is a need for theoretical work in ethics to help the churches develop positive responses to contemporary social issues such as the degradation of the environment or the introduction of new technologies.

This task can start with a systematic analysis of the ethical assumptions underlying earlier statements of the WCC on social and environmental issues. This analysis should arrange its work on ethics in relation to theology and philosophy, e.g. theories of justice, the use of middle axioms, etc.

The Working Committee

To facilitate its work Church and Society adopted a style of work whereby its Working Group assumes responsibility for the coordination and evaluation of the programme. This group, which includes a range of theological and scientific experts in relevant fields from different parts of the world, also co-opts consultants on a rotating basis.

I. The first meeting of the Working Committee was held at Bossey in April 1985 and called for increased cooperation between the sub-unit and the Commission on Faith and Order.

II. The second meeting of the Working Committee was held jointly with the other sub-units of Unit I (Faith and Witness) in Potsdam in July 1986. At this time the environmental concerns of the MIT Conference (1979) on "Faith, Science and the Future" were combined with the emphasis on the totality of creation that came from the 1983 Vancouver General Assembly. The result was a

major programme emphasis on the "value of life" and a "life-centred ethic" (see the Potsdam Report of the Working Committee 1987).

III. This present report is a compilation of the papers and proceedings of the third meeting of the Working Committee at Glion, Switzerland, in September 1987.

Church and Society joint Consultation with Faith and Order

I. At its meeting in Stavanger in August 1985, the Commission of the sub-unit on Faith and Order requested one of its working groups to discuss the topic of "integrity of creation" in the context of the apostolic faith (first article of the Creed). The resulting draft (Appendix 1) has been fed into the JPIC preparatory process and will also be used as a basis for future co-operative work between the two sub-units.

II. The York Consultation was held in May 1986 and explored more deeply the theme of "Integrity of Creation". The York consultation urged that future work between the two sub-units pay particular attention to the following:

a. clarification of Integrity of Creation in relation to different levels of the concept (philosophical, scientific, theological, ethical) whether descriptive and/or prescriptive, ontological, eschatological, trinitarian or Christological;

b. ambiguity in our understanding of creation and of human interference with the order of creation (e.g. Can we still talk about risks and benefits of nuclear power? Is AIDS a divine curse?); what is the meaning and what are the implications of contingency, freedom, brokennness, goodness, sin, creation, limits and "New Creation" as decisive dimensions?

c. empirical articulation (with evaluation) of the vision of "integrity" in psychological and/or psychosomatic medicine, in terms of ecology and economy (guidelines for an ecological economy), and as a relational term (including international relations);

d. discussion and evaluation of different concepts of eschatology and creation from recent theological thinking and in relation to the following: creation and the concept of time; theologically based perspectives on justice and peace in relation to a believable praxis which takes account of the integrity of creation (i.e. justice in the created order itself); the movement between theory and praxis (e.g. criteria, bridging concepts and "middle axioms" in order to arrive at moral judgements); scientific world views and theological concepts of reality and their respective languages; and understanding of dependency, participation and relatedness for interpreting integrity.

III. Future continued joint consultations on the theme of integrity of creation have been proposed:

a. at the Pacific Regional Consultation on the theme "the Integrity of Creation from a Pacific Perspective", planned for 1988 in Fiji;

b. at the conference on "Creation" at Porto Alegre, Brazil, in November 1987;

c. at a conference on "Creation and Kingdom".

Consultations and Workshops

The series of workshops and consultations co-sponsored jointly by Church and Society with appropriate ecumenical and other partners (universities, for example) is done in the expectation that the latter will carry forward the momentum and interest generated for the benefit of member churches and other related bodies.

The sub-unit will also use these and other consultations in order to elaborate theologically the notion of the integrity of creation within the context of the 1991 World Conference on Justice, Peace and the Integrity of Creation (JPIC).

I. The first consultation with the Church of Scotland's Society, Religion and Technology Project (Glasgow, September 1984) built on the experience of the Scottish churches in a context of acute social dislocation, exploring relationships between current technological developments (e.g. automation) and economic policies (recognizing their European and global dimensions), a theological understanding of work (e.g. the so-called Protestant ethic) and appropriate practical responses for churches and others, including government, at local, regional and national levels. The report of this consultation has been published as Will the Future Work? (WCC, H. Davis & D. Gosling, eds., English, 144p, 1985).

II. The second consultation was an Asian workshop on "New Technology, Work and the Environment" held jointly with the National Council of Churches of the Philippines in Manila, January 1986. The consultation was opened by H.E. Jaime Cardinal Sin and drew together a number of urgent environmental concerns in Asia and the Pacific.

The recommendations urged appropriate action relating to the following goals:

(i) Make visible the economic and political structures that promote and sustain technologies which dominate people rather than serve them;

(ii) Establish resources and programmes to counteract and transform the ill effects of technological change;

(iii) Create a solidarity network among Asian and Pacific people, especially between individuals and groups who are in some sense victims of technology, e. g. women in certain industries (micro-electronics), people contaminated by chemicals (Bhopal), radioactivity, etc.

The report of this consultation was published as Technology from the Underside (WCC, 107p, 1986). The recommendations of the consultation, as adopted by the Central Committee (Jan 87), are given in Appendix No. 1.

III. A workshop was convened in Amsterdam in May, 1987, to study and evaluate the Christian response to the growing environmental crisis. The report is published in the Church and Society Document Series as Reintegrating God's Creation (WCC, 1987)

IV. Other consultations: Church and Society has been co-sponsors of a number of jointly planned consultations, such as:

- "Towards a Theology of Evolution" (Loccum, March 1986);
- "Changing Paradigms in Biology and Medicine" (Erlangen, October 1986)
- "Science Education: Hopes and Concerns" (Salatiga, Indonesia, October 1986);
- "New Technology, Work and the Environment" (Manila, January 1986);
- the eco-justice consultation "For the Love of the Earth and People" (Stony Point, N.Y., December 1986)

Responses to Urgent Social Issues

Church and Society sees as its major role long-term studies on pre-selected priority topics as outlined above. It is also suggested that it should maintain and develop the capability of responding in a timely fashion to urgent social needs such as those raised by churches and church-related organisations, trade unions and special action groups, members of the Church and Society Working Committee, or the General Secretariat of the WCC. Two such issues which were discussed by the Potsdam Working Committee and recommended for the attention of the Executive and Central Committees were AIDS and Nuclear Safety. It was also recommended that the sub-unit exercise a monitoring brief with regard to in-vitro fertilisation.

I. The Acquired Immune Deficiency Syndrome (AIDS)

In response to requests from member churches and the World Health Organisation, the General Secretary asked the sub-units on Church and Society, Education (Family) and the Christian Medical Commission to undertake a study of AIDS. The three sub-units therefore held a joint consultation in June 1986 on the theme "AIDS and the Church as a Healing Community". The

findings of this consultation were summarised by the Potsdam Church and Society Working Committee and submitted to the September WCC Executive, which issued the document "AIDS and the Church as a Healing Community" (Appendix 2) to member churches for study and appropriate response. The Central Committee Hearing on AIDS, Geneva, January 1987, is published in the Church and Society Documents Series, entitled AIDS and the Church (WCC, 1987)

II. Nuclear Safety

After careful consideration of new factors which have arisen since the 1979 MIT Conference on "Faith, Science and the Future", the Working Committee decided that Church and Society staff should consult several people some of whom were involved in the nuclear debate to ascertain whether or not a further study should be promoted. All sixteen persons subsequently contacted, who replied by the time of this report, felt that the nuclear debate should be reopened so as to take into consideration new data (such as the long-term effects and extent of damage of low levels of radiation), shifts in the public perception of the risks of nuclear power production, the imminent prospect of a new generation of small power plants with their as yet unevaluated risks and benefits, and new possibilities for responding to anticipated energy shortages beyond the end of the century.

III. Other Major Environmental Concerns

The sub-unit has participated in the work of the United Nations Environment Programme and has also assisted the General Secretary with statements relating to technological/ environmental issues such as the Bhopal and Chernobyl disasters. Thus on December 3, 1985, the first anniversary of the Bhopal disaster, the sub-unit organised a public meeting at which representatives of Union Carbide and the Indian government responded to a film made shortly after the accident; the General Secretary subsequently chaired a private meeting between representatives of Union Carbide and the staff of the WCC. On 5 June 1986, Church and Society and Dialogue assisted in the organisation of an inter-faith United Nations Environment Programme celebration of World Environment Day.

Case Studies

Previous Church and Society work has attempted to analyse amongst other issues the impact of technology on society and the environment. It now seems appropriate to apply these analyses to concrete situations and church-related involvement in different regional contexts.

I. A team visit shared by Church and Society and the Christian Medical Commission visited the Marshall Islands in Micronesia, from October 11 - 21, 1987. Its purpose was to study ongoing primary health care needs and the impact of technology on the way of life of the people and the environment.

II. Working Committee members volunteered to organise case studies in the following areas:

- Appropriate technology in East Africa;
- Deforestation in Central/South America;
- Church responses to unemployment in Europe;
- Church action with respect to technology transfer to Third World countries.

Each of these case studies is being coordinated by small core groups from members of the Working Committee of Church and Society in their respective regions. Such groups are encouraged to make full use of ecumenical partnerships and appropriate local networks with support from the Geneva office as needed. The overall aim of the "Society, Technology and the Environment" programme is to produce a handbook for the use of the churches in social witness and service (see Church and Society Newsletter, No. 5, December 1986, p. 2).

DIRECTOR'S REPORT TO WORKING COMMITTE ON CHURCH & SOCIETY

September 6-12, 1987, Glion, Switzerland

1. The Immediate Post-Glion Period

   1.1. Team Visit to the Marshall Islands

   1.2. Pacific Regional Consultation

   1.3. Creation and Kingdom

   1.4. Science and the Theology of Creation

   1.5. Review of Goals and Objectives

   1.6. Nuclear Safety

   1.7. Aids

   1.8. The WCC/R.C. Joint Working Group and the Consultative Group on Social Action

2. From Potsdam to Glion

   2.1. Major Activities to end - 1986

   2.2. Major Activities in 1987

3. Discussion and Prospects

4. Finance and Staff

David Gosling

Since the joint Unit I Commission and Working Committee meetings in Potsdam last year the sub-unit has continued to operate on three distinct, though overlapping levels: the ongoing theological enquiry into the relation between God, humanity and nature within the context of crises in our modern scientific world; consultations, hearings, and the continuing work of members of this committee via case studies on issues related to society, technology and the environment; and responses to specific problems such as genetic manipulation and Aids which fall within the sub-unit's mandate, as they occur.

We were delighted with the appointment of the Rev. Dr. Freda Rajotte from the United Church of Canada as programme secretary; we welcome her and look forward to her contribution to our work. I hope you will use this Working Committee as an opportunity to get to know her, and to familiarise her with your work and interests, and vice versa.

Documents (1), (2) and (3) which were sent to members of the Working Committee in advance contain the work of the sub-unit as summarised and endorsed by the January meeting of the Central Committee. It is important that members of the Working Committee read very carefully, for example, document (2) to establish whether or not, in their opinion, it summarises accurately in four pages what constituted the final Church & Society Potsdam report (pp.6-30 of the brown Report and Background Papers)[1], and whether or not the three general areas endorsed by the Central Committee in document (3), viz., nuclear safety, the environmental proposal arising from our Manila consultation, and the statement on Aids, are acceptable and feasible. It may be necessary to recognise that the priorities of the Working and Central Committees sometimes differ, and that ways need to be explored to ensure a greater degree of convergence.

In order to facilitate the drawing up of concrete plans for the months ahead, the next section will summarise commitments already made or in process of being undertaken at the behest of either the last Working Committee or the Central Committee, or both. The work of the sub-unit during the last twelve months (Potsdam to Glion) will be reviewed later.

1. The Immediate Post-Glion Period

By this is meant primarily the last part of this year and the first few months of the next, for which it has been necessary to make concrete plans. A number of important decisions concerning participation in these activities will need to be made here, and consultations scheduled for next year will need to be considered in detail. Figure I gives a provisional timetable.

During the last few months of 1987 and early 1988 the sub-unit will collaborate with other sub-units in three events which, in many respects, will parallel last year's Manila and York consultations.

Figure I: Provisional Timetable for Immediate Post-Glion Period

Date	Place	Title
11-21 October 1987	Marshall Islands	Team Visit
17-24 November 1987	Porto Alegre, Brazil	F&O/C&S: Creation
January 1988(?)	Fiji	Renewing God's Partnership in Creation
21 Feb- 4 March 1988	Norway	JPIC Integrity of Creation
6-12 March 1988	Istanbul	WCC Executive
12-22 April 1988	Bossey	Science & the Theology of Creation
6-12 May 1988	Dublin	F&O/C&S: Creation & Kingdom
June 1988 ?	?	Theology & Ethics of Aids
11-22 August 1988	Hannover	Central Committee
August/Sept.1988	?	Nuclear Safety
?	?	N.American NCCs: Eco-justice

1.1. Team Visit to the Marshall Islands: From October 11-21 a joint Church & Society/Christian Medical Commission team will visit the Marshall Islands in Micronesia to assess the ongoing primary health care needs of the Marshall Islands as a developing nation, and the impact of technology and development on the quality of life in the islands. The visit is in response to an invitation from the Minister of Health Services. Church & Society's contribution will be to assess the best ways of identifying the continuing effects of nuclear explosions in the Pacific, and the psychological, sociological and physiological status of the people. The sub-unit will be represented by Prof. Charles Kerr, Prof. of Social and Preventive Medicine at the University of Sydney, Dr. Bernard Lau, a family physician who has worked extensively in Micronesia and among north American Indians and Eskimos, and the Director.

This event constitutes one of the case studies proposed at Potsdam;[2] it is also in part a response to the Pacific challenge at Vancouver.

1.2. Pacific Regional Consultation: the Marshalls team visit was to have been preceded by a Pacific regional consultation "Renewing God's Partnership in Creation" sponsored jointly by Church & Society, the Education and Women's sub-units, and the Pacific Conference of Churches. However political events in Fiji have made it necessary to postpone this event until January or April of next year. From the point of view of

Church & Society this is no bad thing because it will now be possible to feed the results of the Marshalls visit into the broader regional event (which is part of the JPIC process), and hence ultimately into the next Assembly in Canberra, at which, it is anticipated, Pacific issues will feature very prominently. The consultation will also highlight many of the environmental problems raised at the Manila consultation.[3]

1.3. Creation and Kingdom: Church & Society and Faith & Order will share a small consultation on the theme of creation at Porto Alegre (Brazil) from November 17-24. This will take up some of the issues raised at the York consultation, and prepare the way for a joint consultation agreed at Potsdam on the theme of Creation and Kingdom and scheduled for next year (Dublin, May 6-12, 1988). It is also anticipated that aspects of this joint effort will be fed into the JPIC Integrity of Creation consultation to be held in Norway from February 21 - March 4 next year; Church & Society will, however, be making its own independent inputs into this consultation based on the work of its Glasgow,[4] York,[5] Manila[6] and Amsterdam consultations,[7] and the proceedings of its Working Committees.

1.4. Science and the Theology of Creation: the Bossey (Ecumenical Institute) Task Force has approached Church & Society to request a joint consultation on the theme "Science and the Theology of Creation" from April 12-22, 1988. The purpose of this consultation is to bring together theologians and scientists to consider such questions as whether "creation" is the result of a time-conditioned divine action, or is rather a word signifying an open process for which we carry the main responsibility. Where, and to what extent, do questions posed by modern science (e.g. physics) in its positive and negative impacts on our lives, societies, and the world around us admit to theological answers? The majority of participants at this consultation will be drawn via the usual processes of advertising; however the Working Committee must consider who to recommend as speakers.

1.5. Review of Goals and Objectives: before proceeding to describe the remaining commitments for the next twelve months, it is useful to remind ourselves, in the light of 1.1 -1.4 of the primary goals and objectives of the sub-unit's work. Our mandate - the promotion of inter-disciplinary reflection and action by theologians, scientists and others concerned with the common responsibility of individuals and churches in modern society - commits us to action-orientated points of entry in terms of case studies which utilise social and scientific analysis to explore the relationships between "data" (e.g. radioactivity in the Pacific, acid rain in Europe, etc.), theology, ethics and appropriate and informed action by the churches. (The four components of the "Bossey circle") "Reflection" addresses the same ultimate goals, but does so by recognising that the churches and the world lack a credible theology and philosophy of nature which takes into account the discoveries and insights of both science and theology - the absence of which is a central factor in the alienation between God, humanity and nature (which was the central theme of the 1979 MIT Conference "Faith, Science and the Future";[8] there is however, an additional methodological emphasis which has been brought in since then, namely, the role of social analysis).

Items 1.1 and 1.2 above are case studies based on the Pacific; their main antecedents were the Manila and Glasgow regional workshops; they will be accompanied at this Working Committee by information concerning regional

studies being undertaken by members, and discussed primarily in the Society, Technology and Environment core group moderated by Dr.J.N.K. Mugambi (whose research project is accompanied by an excellent manuscript "God, Humanity and Nature in relation to Justice and Peace").

Items 1.3 and 1.4 above, undertaken primarily with Faith and Order, and following such collaboration, with JPIC, stress a more reflection-orientated and historically-based point of entry into the "Bossey circle" (theology/ethics/social and scientific analysis/action), and will be taken up primarily in the Theology of Nature and Value of Life and a Life-centred Ethic core groups moderated by Dr.Jay McDaniel and Prof.Charles Birch. The fourth Glion core group (Ecumenical Social Ethics) will begin its task by analysing previous WCC ethical statements, and to assist us with this task we are delighted to have with us, as consultants, Prof. James Gustafson and Prof. Ronald Preston.[9]

Thus from varying regional perspectives and points of entry both the planned consultations summarised under headings 1.1 to 1.4, and the work of the Working Committee case studies and core groups are ultimately focussing on a priority concern: how are we to rediscover a sense of the wholeness of creation and to generate appropriate ethical imperatives to act in accordance with this vision?

Additional commitments to be considered for the next twelve months are as follows:

1.6. Nuclear safety: Documents (2) and (3) and others distributed via the Nuclear Safety core group summarise developments in this area since Potsdam. The Central Committee encouraged the Church & Society Working Committee to explore at its next meeting the possibility of re-opening the nuclear debate by means of an international conference.

It should be recalled that the Potsdam Working Committee discussed some of the new factors which have emerged since the 1979 MIT Conference debate about nuclear power; these included the long-term effects and extent of damage of low levels of radiation, shifts in the public perception of the risks of nuclear power production and the links between nuclear power and nuclear weapons, the prospects of a new generation of small nuclear power plants with their as yet unevaluated risks and benefits, the strengthening of links between international agencies (especially the IAEA), and new possibilities for responding to energy needs beyond the end of the century.

At the request of the Working Committee, staff consulted thirty-five individuals who had been involved in the earlier debate, of which sixteen replied stating categorically that they felt that the issue should be reconsidered for reasons similar to the ones just given. We published the text of our Central Committee Hearing on nuclear safety (addressed by Archbishop Kirill, Dr.Bena-Silu and Dr.Brian Wynne) in the May issue of the Church & Society Newsletter, and have distributed extracts from the replies to our letter to former participants in the nuclear power debate together with a position paper produced by the Forschungsstätte der Evangelischen Studiengemeinschaft (FEST) in Heidelberg.[10]

Dr. Carl Friedrich von Weizsäcker had originally agreed to spend a day with us during our Glion meeting, but on account of unforeseen circumstances is unable to do so. He has therefore sent us as guidelines

for our discussions his Introduction to Die Grenzen der Atomwirtschaft, and has been in contact with Prof. Kosta Tsipis, the moderator of our nuclear safety core group.[11]

Insofar as the Chernobyl disaster caused pockets of intense surface radioactivity at distances considerably greater than was anticipated, the nuclear safety group might possibly consider whether or not the extent of the spread of radioactivity from bomb tests in the Pacific has been sufficiently investigated.

1.7. Aids: This issue has occupied a considerable amount of the sub-unit's time during the past year and a half. Responsibility, however, is now firmly shared by an Inter Sub-unit Group consisting of representatives of Education, Church & Society and the Christian Medical Commission, and moderated by Prof.Todor Sabev. This kind of cooperation between sub-units and across units is proving a novel and effective approach to a major and many-faceted issue, and it underlines the increasingly significant role of Church & Society within the Council in terms of making connections between different constituencies.

The Aids Inter Sub-unit Group has prepared a progress report for the Executive at its Atlanta Meeting from September 18-26 (Annex A), and it is anticipated that Church & Society will bear major responsibility (in cooperation with the other sub-units) for a consultation on the theological and ethical dimensions of the problem. The June 1986 consultation refuted certain kinds of fundamentalist stigmatisation of people with Aids, but it did not go into some of the deeper theological issues (e.g. the notions of "vulnerability" and "intimacy" as suggested by our Moderator during the Central Committee Hearing in January).

The theological issue at the heart of the Aids crisis may well prove to be most effectively addressed from the perspective of Church & Society's ongoing inquiry into the relationship between God, humanity and nature. Does our understanding of creation ultimately endorse the kind of classical deism according to which, to quote Charles Birch "God made nature, then left it" - returning from time to time with an interventionist "miracle" for the favoured, and a series of plagues and misfortunes for everyone else? This kind of world-view is extremely popular among many scientists, theologians and lay members of the public, and it goes hand in hand with a pragmatic instrumentalist attitude to nature which is part of a much greater misunderstanding about the character of God.

Our theological discussions have led us to affirm that God is integrally involved in every aspect of the world: panentheism, whether it be Process, Orthodoxy, Moltmann's ecological "notions", Liberation theology, or just the official doctrines of those mainstream churches which have struggled to maintain continuity between the Apostolic Faith and the problems of contemporary life. Excellent though Moltmann's notions of "new creation" and "kingdom" may be (see 1.3 above), he ultimately devalues God's activity in history leaving us with little or no basis for many pressing contemporary issues.

The proposed Aids consultation (subject to the approval of this Working Committee and the Atlanta Executive), will draw upon the responses of the churches to the letter sent to the churches by the General Secretary on October 9th. last year summarising the conclusions of the June Aids

consultation which were reviewed at Potsdam. It will also probably draw upon the wisdom of a joint Canadian/USA National Council's regional consultation on Aids scheduled for October 23-25 this year (co-sponsored by the WCC at the recommendation of the Inter Sub-unit Aids Group).

1.8. The WCC/RC Joint Working Group (JWG) and the Consultative Group on Social Action: In April 1987, for the first time in recent years, Church & Society was invited to participate in the Joint Working Group between the WCC and the Roman Catholic Church (via the Director) and in the Consultative Group on Social Action (via Prof. Ronald Preston), the former taking place in Bossey from April 30 - May 7, the latter in Rome from June 15-16.

Discussions with the JWG identified several areas of mutual interest, some of which are recorded in the Minutes (e.g. bioethics).[12] Jaime Cardinal Sin's views about the need for a "people-orientated work ethic" expressed at the Manila consultation were mentioned with approval, and Aids was briefly referred to.[13]

Ronald Preston's reflections on the Consultative Group on Social Action are also available. In them he comments:

> In particular on the whole question of scientific versus theological models of reality, and the bearing of them on nature and society, Church & Society seems out on its own. Much more attention needs to be paid to this by both sides if a coherent and integrated programme leading to 1990 is to be achieved. It is clearly at the earliest stage. Rome seems to be actively considering full participation, and it will be a great advantage if it comes in at the ground level. Missing in this meeting was any discussion of method in Christian social theology and action... (his italics).

It is important that we discuss ongoing collaboration with the JWG and CGSA, and what form it might take.

We also need to consider continuing our work with CWME. Dr.David Pullinger, Director of the Church of Scotland's Society, Religion and Technology Project very kindly represented us both at CWME's Gospel and Culture consultation in Malaga in June, and at the July CWME Executive - his report is available on request.[14]

We are likely to be asked to continue our cooperation with the Education sub-unit on the Family in Crisis Today by keeping them abreast of issues such as genetic manipulation. (For this we are assured in correspondence that we can rely on Mrs. Anne-Marie Thunberg and Dr. Jurgen Hübner of FEST. For further information see letter of 6.7.87 to Charles Birch).

The Church & Society Hearings on Aids and Nuclear Safety at the January meeting of the Central Committee were very much appreciated by many of the members, and there has been an enormous demand for the text of the former in several languages.[15] The Working Committee might wish to suggest a suitable topic and participants for a similar presentation at the next Central Committee in Hannover (August 11-22, 1988).

The North American Eco-justice consultation, for which co-sponsorship is sought, will be discussed in the next section.

Beyond what has been called the immediate post-Glion period (roughly from now until the next Working Committee), it is anticipated that the remaining case studies in East Africa, Central America and Europe will be carried out, and that they will incorporate many of the features of the Manila consultation and the forthcoming project in the Marshall Islands. Thus in each case scientific and social analysis will be the point of entry for an investigation of the relationships between various environmental issues and possibilities for theological informed responses by the churches. Both the issues and the theological context will vary - thus deforestation in Central America may be addressed from the point of view of Liberation theology, while appropriate technology in East Africa has already been set within a strikingly original religious and cultural African context by Jesse Mugambi.

But it will be the task of this Working Committee to carry these plans a stage further.

2. From Potsdam to Glion

2.1. Major Activities to end - 1986

In this section we list chronologically the main activities since Potsdam, and then discuss selected ones in the light of our methodology and goals.

1. October 9-12: symposium on "Changing Paradigms in Biology and Medicine", Erlangen: co-sponsored by the Evangelical University Graduates Association (EAiD) of the FRG and Church & Society (Bernd Schulze). This was the second EAiD follow-up meeting of the 1979 Boston Conference on Faith, Science and the Future (See Newsletter No.5, December 1986).

2. October 22-25: Workshop on Science Education at Satya Wacana University, Salatiga, Indonesia; a southeast Asian regional counterpart of the 1983 Amsterdam consultation on the same topic and also in part follow-up of the Manila consultation on "New Technology, Work and the Environment".[17] Co-sponsored by Satya Wacana University (especially via Liek Wilardjo, moderator of the planning committee and a nuclear scientist), Church & Society and the Free University in Amsterdam. Prof. T.K.Oommen and several participants at the Manila consultation read papers.

3. October 24: planting of the tree at the U.N. as agreed on World Environment Day (June 5) when representatives of three major world religions held an interfaith event sponsored by the U.N. Environment Programme, and hosted by the WCC. The Director represented the General Secretary and the Roman Catholic Church.

4. November 7-13: participation in International Conference on Justice, Peace and the Integrity of Creation (Glion) via short staff paper (Director/Bernd Schulze) and via Prof. T.K. Oommen.

5. November 19-26: participation in CICARWS International Conference "Diakonia 2000: Called to be Neighbours" (Larnaca, Cyprus) via Bernd Schulze and the Rt.Hon. David Bleakley, General Secretary of the Irish Council of Churches.

6. December 1-3: participation in NCCUSA Church & Society Conference on Eco-justice (Stony Point, New York) via panel presentation (Director); to be followed up in 1988 by North American regional Consultation co-sponsored by NCCUSA Church & Society, other North American organisation and environmental groups and the WCC. The follow-up of this event - which seems to come closest to the NCC's appreciation of JPIC at this stage was further discussed in March of this year with Dr.Dieter Hessel and it was decided to ask two or three Church & Society Working Committee members to participate (time and place to be decided). The notion of "eco-justice" deliberately raises the level of commitment to environmental problems (many of which at the Conference were primarily of concern and danger to women) to that of traditional justice/human rights issues, and insists that the two areas cannot be separated.

7. Throughout the latter half of the year until the Christmas vacation, staff participated in task forces (e.g. JPIC, Food Disorder, Ideologies, Gospel and Culture, Bossey) and WCC-based activities (e.g. the visit of the National Councils of Churches, October 19-25, lectures to the Bossey graduate school and visiting groups such as the U.S. Lutheran Bishops (October 8) and representatives of the Greek churches (November 10). Bernd Schulze visited the Evangelische Akademie in Loccum, the EKD in Hannover, AGKED in Stuttgart (October 6-12), and met a group of visiting EKD officials in Geneva (November 13).

8. Having presented the Aids document summarised by the Potsdam Working Committee to the Reykjavik meeting of the Executive in September, the Director was inundated with correspondence on the subject for which the level of staffing of the sub-unit was inadequate, and a situation which was aggravated by the departure to her new position of Dr.Cecile de Sweemer, who had contributed so much to the Council's work in this area.

9. Prior to and immediately following the Joint Unit I Working Committee and Commissions in Potsdam, staff and Committee members took part in team visits as follows:

Cecile de Sweemer	6-12 July	Bulgaria
Rolando Mendoza	6-12 July	Bulgaria
Pirrko Pentillä	8-12 July	FRG
Masaki Endo	8-12 July	FRG
Uwe Arnhold	7-12 July	Romania
Lilia Ramos	21-26 July	USSR
David Gosling	21-26 July	USSR

2.2. Major Activities in 1987

1. January 16-24: the Central Committee endorsed a summary of the Potsdam Working Committee's report (Document 2), highlighting three priority areas: a proposal about the environment based on

the Manila consultation, nuclear safety, and Aids (Document 3), see also Newsletter No.6 (May 1987). On January 17th. the sub-unit held two well attended hearings on Aids and nuclear safety; the former has been published as a booklet.[18]

2. During February and early March staff were involved primarily in the follow-up of Central Committee priorities and preparation for activities planned for later in the year. Bernd Schulze visited representatives of the EAiD and AGKED in Stuttgart, met the Director of the World Wildlife Fund, and participated in a donor agency meeting of a Human Rights Information and Documentation System (HURIDOCS); this meeting led to the establishement of a small experimental Church & Society environmental data base. Staff continued to participate in JPIC-related task forces (e.g. JPIC Pacific, JPIC Integrity of Creation Steering Group) and regional task forces. The Inter Sub-unit Aids Groups, consisting of representatives of Education, Church & Society and the Christian Medical Commission began meeting regularly, and an intern (Anastasios Zavales) was appointed to facilitate the work of this group. Church & Society staff were primarily responsible for responding to a large number of requests for WCC representation at major gatherings dealing with Aids.

   We were able to facilitate WCC participation in the following: AMFAR-Panos Consultation on Aids and Development (Annecy, March 17-19), Interfaith Conference on Aids and ARC for Clergy and Caregivers (San Francisco, March 21-22), the second annual conference of Christian Action for Aids (London, April 4), and the American Medical Association's National Conference on Aids and Public Policy (Chicago, April 21-22). The President of the Ghanaian Methodist Church and the Anglican bishop of Tamale in northern Ghana visited our offices during this period to request recommendations for suitable speakers to address their churches about Aids, and arrangements were made for an experienced medical and public health specialist working in Senegal to visit them.

3. From March 8-29 the Director made a visit to Canada and the USA to interview, together with the Rev.Susan Eagle, a candidate for the position of programme secretary, to meet people who could be of assistance with programmatic issues (e.g. Prof. James Gustafson, Dr.Rosalie Bertell, Dr.Dieter Hessell), and to take part in and preach at the San Francisco Interfaith Aids Conference. His closing address at the Conference, which was hosted jointly by the Episcopalians, Roman Catholics and the Jewish Congregation Emanu-El, was grossly misrepresented in the National Catholic Reporter.

4. On April 27 the Director represented the Council at the public presentation in London of the final report of the World Commission on Environment and Development by Mrs. Gro Harlem Brundtland, Prime Minister of Norway (Our Common Future).[19]

5. May 8-15: Bernd Schulze participated in a seminar on "Environmental Developments in India" (a presentation on the work of Church & Society in the context of JPIC) at Iserlohn Evangelische Akademie (FRG); together with Margot Wahl he also led a small working group on the theme "Reintegrating God's Creation". This group included Working Committee members Prof. Rolando Mendoza, Dr. Mady Laeyendecker-Thung, and Central Committee member Dr. Adebisi Sowumni. The proceedings are in process of publication.

6. During May and June the sub-unit participated in the Joint Working Group (April 30 - May 7) and the CGSA (see section 1.8. above). Dr. David Pullinger (Church of Scotland's Society, Religion and Technology Project) and Anastasios Zavales represented the sub-unit at CWME's Gospel and Culture Workshop in Malaga (June 10-17).

   Meetings were arranged between the General Secretary and the Inter sub-unit Aids Group and Tom Tull, a member of the June 1986 Aids Consultation who registers seropositive to the Aids virus, and also Barnaby Miln, J.P., a member of the General Synod of the Church of England.

   During this period and prior to it there were numerous discussions concerning possible new sources of income for the sub-unit's work with OICD, and visitors such as the Rev. Marga van der Veen-Schenkeveld, a member of the Central Committee, who visited us mid-June. More detailed treatment of financial issues will be provided later, but it is worth noting that the sub-unit's work on Aids secured a new source of designated "ethics-related" income from the Presbyterian Church (USA).

7. On June 26 the Director took part in a symposium sponsored by the Education Sub-unit on the Family in Crisis Today. A summary of this symposium (which was also shared with the Christian Medical Commission) is appended in the form of a letter dated July 6 to Charles Birch,

8. On June 30 four candidates were interviewed for the position of programme secretary, including Third World and Orthodox representatives; the successful candidate was the Rev. Freda Rajotte, who was subsequently appointed by the officers of the WCC.

3. Discussion and Prospects

Technology from the Underside, the proceedings of the Manila consultation on "New Technology, Work and the Environment", was published at the end of 1986.[20] In terms of the sub-unit's ongoing programme, and in particular the famous "Bossey circle", what does it and the other activities in the previous section, represent?

In terms of Church & Society's history, it is probably true to say that two aspects of the Manila consultation were novel - the stress upon the role of sociology, and the emphasis upon the "theology of victims". According to Kim Yong-Bock:

> The victims of power and technology hold privileged knowledge not understood by the experts, the scientists, the academics. For they hold an epistemological advantage. The victims have a special knowledge and experience of history, real history, of which those who control are completely unaware. The Biblical message must be understood as the account of what God is doing in the world through its victims. The reality is that the Bible is not an account of the experience of the privileged in society but that of its victims.
>
> God is the creator of that which is most beautiful in the midst of chaos. He is the gardener of justice and **shalom** in the midst of the surrounding jungle. Today the jungle is evident in the political, economic and social systems that extend their control through technology. We the people of God are called to be gardeners of what God has created. God created the garden of justice and **Shalom** and we have been called to "dress it and to keep it".[21]

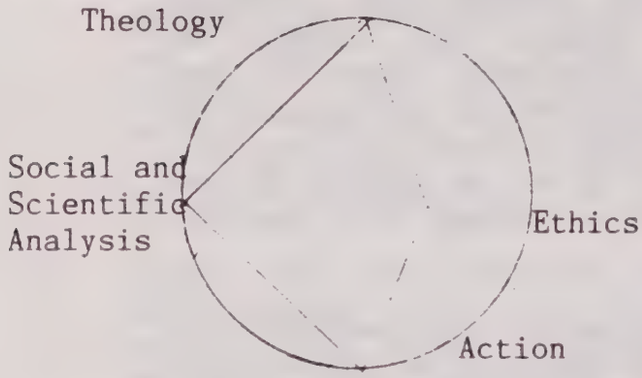
This emphasis upon the viewpoint and understanding of victims, was underlined by the presence and participation of people who had had first-hand experience of the negative effects of new technologies - women and young people in southeast Asian microelectronics industries, a young science graduate who had been shot in the back and almost killed by the Filipino Military, and our Working Committee member Darlene Keju-Johnson, who has suffered radioactive contamination from the testing of nuclear weapons in the Marshall Islands. The consultation concluded:

> If the Church is to meet these challenges it must rethink its basic priorities. It must rediscover a theological base from which it can address the full range of technological and related human and environmental issues, identifying with those who suffer from negative aspects of technology and adverse working conditions. Above all the Church must launch new initiatives to redirect social and technological change towards a just and sustainable future.[22]

In this sense, therefore, "theology" features strongly in the Bossey circle, as does "action". "Scientific analysis" in traditional Church & Society style was authentically represented by professional scientists, and "social analysis" - the new element for which Faith & Order commissioner Wolfhart Pannenberg pleaded at the first Post-Vancouver meeting, was capably and eloquently represented by Prof. T.K. Oommen.

But what about ethics? A "theology of victims" may be both biblical (especially in relation to the Old Testament) and very real in the sense that nobody can deny it priority of importance on the Churches' agenda. But it is also personal, in the sense that it is, at least temporarily, limited to those who are part of it, whereas ethics implies horizons of responsibility of a much more general nature. At any rate, for the time being, let us assume that although the Manila consultation was theologically well-grounded, it did not generate much by the way of

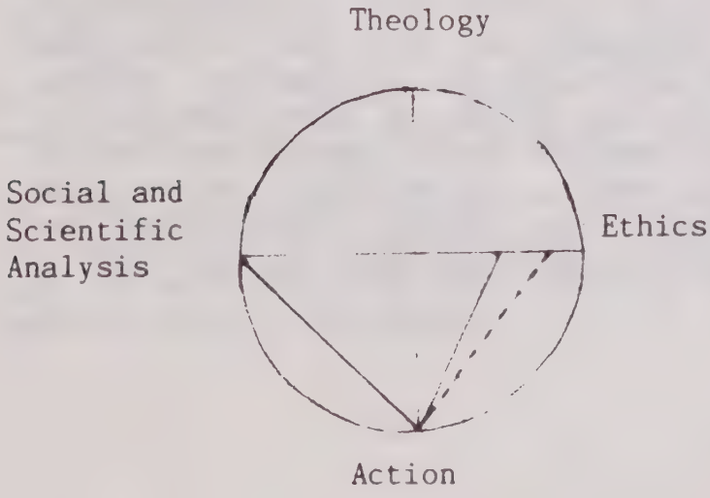
ethical principles (except, perhaps, the urgency of redefining the so-called Protestant Work Ethic). So our Bossey circle for the Manila consultation now looks as follows:



Theology	: good
Analysis	: good
Action	: good
Ethics	: poor

People may, and probably will, disagree that a theology, or theologies generally, which begin from the standpoint of victims, do not generate satisfactory ethical principles, but the question merits serious attention. Is the biblical and theological reality experienced by victims to which Kim Yong-Bok alludes susceptible to the generation of satisfactory Christian social and environmental ethics? Is this, in fact, a problem in relation to all theologies which take as their starting point the plight of the poor and disadvantaged and God's predilection for them (e.g. Liberation theology)? If so, then we may be beginning to understand why First and Third World Christians so often fail to comprehend one another, while friends in the Second World (so-called!) are obliged to wait patiently for an opportunity for engagement which does not presuppose a falsely polarised relationship - or lack of such - between theology and ethics.

Leaving this question temporarily, we consider other issues addressed in the last section from the point of view of the Bossey circle. First of all - selected primarily to sharpen and extend the range of our methodological instrument - the Brundtland Report on Environment and Development, which featured significantly in our Amsterdam consultation on the Integrity of Creation (May 11-15, 1987), and at the public presentation in London of which our sub-unit represented the General Secretary. Strictly secular, of course (but we shall need to discuss what we mean by this presently), so theology ranks nil. Social and scientific analysis are excellent - as you might expect with all the expertise at the disposal of the U.N., and the actions to which we are individually and collectively exhorted, are clear. At first sight there appears to be a strong social and environmental ethical principle (don't do anything now which reduces future options); but ultimately no clear rationale is given (<u>why</u> should we do or not do so?) - in this respect the Brandt Report was better because it appealed to the ultimate relativistic ethic of self-interest![23] Thus we characterise the Brundtland Report as follows:



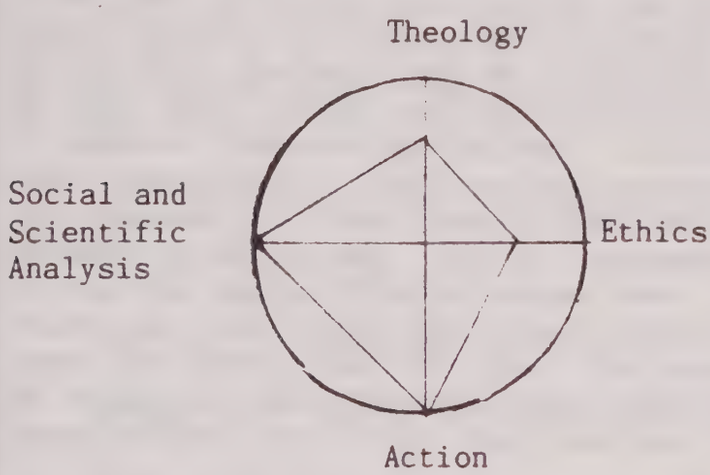
Theology	: nil
Analysis	: good
Action	: good
Ethics	: poor

The dotted line indicates the Brandt Report.

But the characterisation may be too simplistic, firstly, as our science education regional workshop in Indonesia last October made clear, because there are national and regional situations in which what is secular is more ethically justifiable by Christians than what may appear to be theologically based, but what is, in fact, a thin veneer for narrow Christian and other sectarianism. Secondly, one cannot help but be struck by the fact that the Brundtland Report's concept of "sustainable development", and the presuppositions surrounding it, are very similar to those of the WCC's pre-Vancouver Just, Participatory and Sustainable Society. But sustainability was criticised and replaced by Integrity of Creation because it was felt to be unbiblical and therefore, presumably, theologically unacceptable.

But to return to the central problem of building a relationship between theologies of victims and ethics. Let us take two examples based on two fairly major parts of our work, Aids, and the next regional case study, planned in the Pacific later this year.

Aids has taken up an inordinate amount of the sub-unit's energies and has arguably complicated what at Potsdam seemed to be a very tidy and coherent programme. And yet, as we have argued in section 1.7, there are theological and ethical dimensions of the Aids crisis which place it very centrally on Church & Society's agenda. In terms of what has already been done, we suggest that Aids on the Bossey circle should be represented as follows:



Theology	: poor
Analysis	: good
Action	: good
Ethics	: poor

The social and scientific analysis of Aids has been conducted by first rank medical experts from the two continents where the problem is most acutely experienced. Action has been realistically and explicitly exhorted to an extent that some have found disturbing. But theology has so far been mainly limited to expressions of solaridarity ("Those we cannot cure we can support and sustain in solidarity")[24] and refutations of deism.[25] Ethics, both within and outside WCC circles has been for the most part conspicuous by its absence.

As has been indicated in section 1.7., Aids raises theological questions which are at the heart of Church & Society's ongoing ecumenical inquiry into the relationship between God, humanity and nature. The same deistic heresy which underlies many if not most misunderstandings about science

and faith is responsible for the notion of an interventionist God which is both popular among fundamentalists, and also embedded in the formularies and liturgies of many mainstream member churches - in this respect it is interesting to note that the most imaginative responses to the statements on Aids by the WCC's Executive and Central Committees have been liturgical.

The view that God "made nature, then left it" can only be satisfactorily countered by a doctrine of creation which is panentheistic, and we have noted some examples in section 1.7. But having got our theology right (and here our joint programme with Faith and Order is of vital importance), we still must work out a satisfactory system of theocentric ethics - and we will be looking optimistically to Prof. James Gustafson to assist us with this task. Ethical, and what the International Herald Tribune calls philosophical questions, abound on every front:

> Aids, more than any disease in recent memory, confronts society not just with medical but with philosophical questions. Because there is no cure and because of the ways it is mostly transmitted, Aids has provoked an unusual share of panicky and demagogic responses.[26]

So far much of what has been said in public about Aids has been either deistic (e.g. pronouncements by fundamentalists) or victim-orientated (though Aids sufferers rightly insist on being "people with Aids" and not "victims" per se). In the latter case the language of solidarity has naturally and rightly predominated giving rise to a "theology (and in some case a liturgy) of victims" as distinctive as Kim Yong-Bok's Minjung.[27] But how far does this take us with respect to ethics? Here again it appears that it is the interface between theology and ethics which is most problematic and distorted, with the result that genuine dialogue becomes virtually impossible. Imagine an argument between a young woman working in a micro-electronics sweatshop in southeast Asia and a young man with Aids in San Francisco in which each is claiming the major share of attention on the ecumenical agenda. How could an Eastern European, say a Russian Orthodox, even begin to participate in such a discussion as long as it is falsely polarised according to First World/Third World male/female categories? And yet have there not been Tolstoys and Pasternacks with far richer and more profound responses to human suffering than anything that has ever come out of an international consultation?

The Marshalls Team Visit and the Pacific Regional Consultation are part of a response to the Pacific challenge at the Vancouver Assembly about nuclear testing. The environmental and technological aspects of the issue together with the presence on this Working Committee of Darlene Keju-Johnson made this a clear priority for the sub-unit. Potsdam reshaped what had not until then amounted to much more than the gathering of radiological data, bringing it within the ambit of "a sociological approach which transforms society" - to prècis Dr Mady Laeyendecker-Thung's exciting and original methodology.

But not only has the conceptual context of the Marshalls team visit now been altered, transforming it into a case study which will enable churches to make a more generally applicable informed response; the focus has also shifted in terms of the beneficiaries/participants within the

Islands. Initially these were the people directly and obviously affected by the nuclear bomb tests of the 1950s and their "offspring" - to use a gratuitously refreshing word for what Darlene has described as jelly-fish babies. As time went on it became clear that no simple formula could be devised to isolate and compensate such a group, but that the self-development of all the people on the Islands was the fundamental issue.

Thus Church & Society's science/technology-related focus grew into the wider context of primary health care and community development, the initiative for the change coming from the Marshallese themselves. And underlying this shift - or, dare one say, movement of the Spirit - lies the potential for a Life-centred theocentric ethic of much more general validity than could correspond to a "theology of victims".

Beyond the Pacific case study there will be others, some of which are under way and about which we shall be hearing here at Glion. Others, as proposed at Potsdam, will take shape in due process of time. Meanwhile we must not lose sight of our focus, as set out in the first part of this report (section 1.5). By means of our case studies and our ongoing programme within Unit I and the rest of the Council, we try to assist the churches to rediscover a sense of the wholeness of creation and to generate appropriate ethical imperatives to act in accordance with this vision - a vision of a recreated universe which waits perhaps unduly lengthily, for the glorious liberty of the children of God!

4. Finance and Staff

Our financial situation remains satisfactory at sub-unit level, though the decline in the value of the dollar gives general cause for concern. We continue to receive designated income from a number of donors to whom we wish to acknowledge our gratitude as follows:

-	FRG Kirchlicher Entwicklungsdienst (KED)	SFr. 143,820
-	Canada - ACC/CIDA	SFr. 33,247
-	USA (NCC + Presbyterian Church)	SFr. 10,917
-	Netherlands (Netherlands Reformed Church) (for 1986 only)	SFr. 5,166

Both last year and this year we have been able to save money budgeted for consultations. This has been because we originally budgeted the full cost of a consultation in the expectation that we would have to bear the cost alone. But in virtually every case one or more sub-units or an ecumenical partner has joined us, and either shared costs (e.g. Education, Women and the Christian Medical Commission in the Pacific), or has provided personnel and facilities which have considerably reduced our expenses (e.g. the organisation of the Manila consultation by the National Council of Churches in the Philippines, and the publication there of Technology from the Underside). It cannot be stressed too strongly that the sub-unit's role is becoming increasingly one of making connections between different constituencies and parts of the Council, and that such a policy is beneficial from every point of view. It is

because we have saved consultation money by sharing costs that we are able to employ both Bernd Schulze and Freda Rajotte concurrently rather than consecutively! We do, however, urgently need additional funds to enable Bernd to continue his excellent work beyond the end of the next six month period.

Uwe Arnhold left us immediately after Potsdam to undertake his vicariat in Hildesheim. We are grateful to him for building up our relationships with individuals and groups in the FRG and for generally brightening our lives with his witty memos and periodic broadsides against our friends in the Lutheran World Federation. Cecile de Sweemer left in October three weeks earlier than expected, returning for the same period in January, which happily coincided with the Central Committee Hearing on Aids in the preparation of which she was of invaluable assistance. It has been a delight and a privilege to have worked with Cecile for more than a year; she is now working for the International Research Development Corporation in Senegal. Anastasios Zavales joined us as an intern from the Bossey Graduate School in March to assist our work on Aids, his salary being shared by the three sub-units involved in this issue. He represented the sub-unit at CWME's Gospel and Culture consultation in Malaga, returning to his church (Orthodox Church of the Ecumenical Patriarchate) in August. Margot Wahl joined us as half-time secretary in January and has provided sterling hard work in the office on our behalf.

Shortly after Freda's appointment had been confirmed by the Officers, I went to the General Secretary to state my desire to leave the Council in order to resume research and teaching in the U.K. in time for the academic year beginning next Autumn (1988). We therefore agreed that my resignation should take effect from September 30, 1988, which should give the Working Committee and other bodies of the Council sufficient time and opportunity to find a successor.

In case - as seems probable - this is my last Working Committee, I should like to thank you all and my colleagues for your inspiration and support, especially that of our tireless Moderator, John Habgood. It has been a privilege and a joy to have worked with such a hard working and committed group of people from such a rich diversity of regions, traditions and academic backgrounds, and to see you all progressively taking responsibility for more and more of our shared concerns - which, I am quite convinced - is the only way in which the present cumbersome machinery of the WCC will ever be transformed into an ecumenical instrument sensitively and accountably serving the needs of the member churches.

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14. David J. Pullinger, "Personal Report on the CWME Commission Meeting", Geneva, June 5-12, 1987.

15. Aids and the Church, Church & Society Documents, No.1, March 1987.

16. David Gosling and Bert Musschenga, eds., Science Education and Ethical Values, WCC and Georgetown University Press, 1985.

17. Op. cit. (3).

18. Op. cit. (15)

19. Our Common Future, Oxford University Press, 1987.

20. Op. cit. (3).

21. Church & Society Newsletter, No.4, January 1986, p.2.

22. Op. cit. (3), p. 92.

23. North-South, a programme for survival, Pan Books, 1980.

24. Statement by WCC Executive, in the Minutes of the Thirty-Eight Meeting of the Central Committee, January 16-24, 1987, p.133.

25. Opening address at Aids consultation by Emilio Castro, Op. cit. (15), p.2.

26. International Herald Tribune, Editorial, August 25, 1987, p.4 .

27. Kim Yong-Bok, Op. cit. (3), p.50.

Danger - executives at work!

MINUTES OF BUSINESS MEETING OF SUB-UNIT ON CHURCH & SOCIETY
GLION, SWITZERLAND, SEPTEMBER 11, 1987

1. Minutes to be taken at each meeting and to be passed at next meeting.

2. Decision-making:

There is to be an Executive sub-group which is:

- The Moderator
- Director
- Mady Laeyendecker-Thung
- Jesse Mugambi
- T.K. Oommen
- Bishop Feofan

- T.K. Oommen was appointed Vice-Moderator.

3. Consultants:

Consultants are chosen for meetings on the basis of what they know of the particular subject for that meeting. The Executive appoints consultants and should be sensitive to balance (country, denomination) in so far as this is possible.

4. Members of the Working Committee

Members of the Working Committee who miss two consecutive meetings:

i) Absent members cannot be readily replaced by proxies since members are appointed by Central Committee. This problem will be considered by Central Committee.

ii) Present vacancies due to the resignation of Assaad and the disappearance of Moschonas. Members are to be invited to submit names to be considered for these two vacancies.

iii) Ms Thunberg to be written to, to acquaint her with the rules and to find out if she is likely to be able to attend future meetings.

5. Case studies proposed at Potsdam.

Project 4.2.1. Potsdam: Central America: No prospects for this year.
Project 4.2.2. East Africa: In hand with Mugambi, but will be available in 6 months.

6. Staff and Funds for 1987/88

Funds are available this year for 2 full-time programme staff and for about 3 consultations

7. Projects for 1987/88

i) Nuclear Energy Project. Expertise possibilities with WCC staff

after more specific definition of the project by Tsipis.

ii) Theology of Nature and Theo-centric ethic consultation to be held with 10-12 people possibly instead of the proposed Dublin consultation. It could be a Arkansas or a East European country and could be convened by some members of the Working Committee (McDaniel, Birch, Trickett). Need 12 months.

The Norway consultation needs input from us on more than the theology debate and is more allied to action in the struggle for survival. It should include:

iii) Christian critique of global environment reports, from the perspective of oppression and suffering in the Third World.

Bishop Feofan to review the Russian literature.

Someone to review the WCED report.

Trickett to survey American responses.

Schulze to review the European responses.

(These reports should be useful at the Norway meeting).

iv) Manipulation of life:

Refer to Christian Medical Commission and possibly FEST.

v) Patterns of sustainable development - case studies with Church and Society participation.

- Oomen to go into Indian examples

- Mugambi to go into African examples.

vi) Social Ethics:

Gustafson may continue his study on content (as well as method) Ecumenical Review in a forthcoming issue is relevant. David to investigate.

vii) Case studies:
Freda to provide some staff assistance.

1. Central America - deforestation
   - pesticide pollution

2. Canada/USA - acid rain (European link?)
   - farm crisis

3. East Germany - energy

4. West Germany - conservation of natural resources

5. East Africa - appropriate technology in relation to energy

Already in process:

1. Marshall Islands- radiation

2. Aids programme

The decision is that all the people should go ahead on the lines indicated.

8. Participants in Norway meeting: The following names were suggested: Bishop Feofan, Jesse Mugambi, Heino Falcke and Charles Birch.

Staff to obtain information on how C&S is expected to contribute and to circulate to all members of the Committee and find who is interested in going: Executive Committee can then determine the final decision.

9. Next meeting 1988: Possibly in an East European country to be explored by Sabev. Central Committee meets in August. Week of September 19th 1988.

10. The meeting proceeded without staff and discussed the succession of the present director.

MEMBERS OF CORE GROUPS

	Theology of Nature and a Theocentric Ethic	Ecumenical Social Ethics
Convenor	Habgood	Preston
	Birch	Oomen
	Feofan	Pentilla
	Houbanchev	Gustafson
	Trickett	Gosling
	Peacocke	

	Society, Technology Environment: Church Responses	Nuclear Energy
Convenor	Mugambi	Tsipis
	Eagle	Eagle
	Falcke	Schulze
	Johnson	Keju-Johnson
	Keju-Johnson	Ratsch
	Thung	Pentilla
	Leuenberger	Thung
	Mendoza	Mugambi
	Ratsch	Mendoza

TOWARDS A THEOLOGY OF NATURE AND A THEOCENTRIC ETHIC

I. The Present Context of the Discussion

In our work as a sub-unit we relate to three contexts, and need to be aware of the themes, assumptions and languages appropriate to each.

A. The World Council of Churches (WCC)

We see our work as part of the JPIC programme, to be done in cooperation with other sub-units. Our particular contribution to the programme is to stress the importance of learning from scientific insights both in theology and ethics. The interaction between theological reflection and use of the best available knowledge about the nature of the world is an esential basis for effective policy-making on matters central to JPIC.

B. The Churches

We are not trying to devise a new theology and ethic, but to point to ways in which existing ones may be developed in order to take account of scientific knowledge. We need to be sensitive to the variety of theological traditions, and to state broad principles in non-technical language, which may then be developed further by different churches in the styles familiar to them. There can be no WCC "theology of nature", but there can be inputs from the WCC to stimulate thinking in the churches on these vital matters.

C. The Global Context

Global problems require global action. The churches must therefore find ways of communication and cooperation with all those who share common concerns about the environment, whatever their faith or lack of it. This must involve a careful use of language and arguments designed, as far as possible, to include those who do not share Christian presuppositions. Widely applicable concepts, such as inter-relatedness, are thus preferable to more theological terms which might be used to describe the same thing.

II. Elements in a Theology of Nature

A. The Present Situation

Although the consideration of history has played a large part in the Christian theology of the past few decades, the concept of 'nature' has been relatively neglected, though to varying degrees in different traditions. This comparative neglect has occurred, in spite of the alterations in the perspectives and prospects of humankind which arise from the new knowledge of the natural sciences and its application to and transformation of our environment.

What does this new scientific knowledge contribute to our understanding of nature? How does this new knowledge affect our understanding of God's relations to nature, including ourselves? Will, and in fact should it, change our perceptions of how we ought to relate to nature?

B. Our traditional understanding of God-Humanity-Nature

Traditionally, Christian theology has always recognised the necessity of holding together, with whatever difficulty and tension, an understanding of God both as transcendent (Creator, Sovereign, Lord, the Mystery behind all, etc.) and as immanent in the created order. As such God is to be perceived in and through that order. It could be argued with some justification that, in the West at least, during the last three centuries there has been a greater emphasis on God's transcendence than on God's immanence. This imbalance might be corrected by sufficient attention to Orthodox theology, which has traditionally stressed that God is revealed through his "energies", through his actions in relation to humanity and the world. But both 'Eastern' and 'Western' Christianity have yet sufficiently to take into account how the scientific perspectives of the world interact with this traditional concept of God's immanence in the world. The time has come to emphasize this fundamental theme in Christian doctrine.

By and large, the relations of God to nature and humanity have been depicted in static images and terms, such as: 'God created'; 'in the beginning'; God was incarnate; God has redeemed us; humanity is a 'damaged' or 'obscured' image of God; is 'fallen'; needs 'redemption' and is destined for 'eternal life'. Thus creation has often been understood as if it were a once-for-all event in the past.

However, the tradition has also included the idea of God continually sustaining the creation. This second concept has tended to be muted, and the question now is how a dynamic view of God's relation to the world can be given new stress.

Even so, God ultimately transcends creation and in love allows it to be itself, and thereby enters into cooperation with creation to bring it to a fuller realization of its potentialities. This is one aspect of the meaning of the affirmation that God is Love. For God's power is the power of love, of a love that persuades -- not, as often popularly interpreted, a manipulative, even coercive, power.

The foregoing is an indication of the character of the traditional response to the fact that nature is. That is, a response to the question: why is there anything at all? However, the explosion of scientific knowledge about nature, including humanity, has now led to new insights into what nature is (even allowing for the qualification necessary because science is a continuing and fallible enterprise).

C. What Nature is

Science provides an account of the results of experimental inquiry undertaken to discover the answer to such questions as "What's there?"; "What's going on?"; "How did it get there?".

Elements in scientific perspectives of nature that are widely agreed in the dominant scientific mainstream (which is not without its critics), include:

1. Nature is intelligible, and open to rational, experimental inquiry.

2. Nature is ultimately mysterious. We do not know what matter (e.g., a quark) is 'in itself' - quantum physics remains agnostic on such questions while being able to formulate inter-relations between such fundamental entities in nature.

3. It is worth reminding ourselves that, at the other end of the evolutionary history, as it were, there is a mystery of what a person is in his - or her - self.

4. Nature evolves in time and is not just a static backdrop to human history. Science now offers a new understanding of the processes of development of nature in the time that lies both behind and within human history. Nature does not have a given set of once-for-all characteristics. These evolutionary changes, both at the inorganic and biological levels, proceed by processes intelligible to the sciences.

5. Recently many scientists have come to see these evolutionary processes as the consequence of chance operating in the law-like framework constituted by the constraints of the laws of physics and chemistry, such as the fixed values of fundamental physical constants. This appears to be the basis on which new forms, in particular living ones, appear - though, at later stages in biological evolution, further subtle interactions occur between a creature's behaviour and its evolution. So nature is open-ended and self-organising into new forms - that is, it has an inbuilt <u>creativity</u>.

6. New forms, as new patterns in the stuff of the world, come into existence at the expense of the old - so <u>death</u> is the necessary pre-condition of new life in the biological world. New forms multiply in competition with existing forms, some of which die out in the conflict, while others live in mutual ecological balance. So there is both <u>conflict</u> and <u>cooperation</u> in nature.

7. By the operation of these (and other) intelligible scientific principles, out of the simplicity of atoms and molecules has emerged the remarkable variety of entities in the cosmos, in general, and in biological life, in particular. Nature appears to be far more diverse than would be needed just to ensure the emergence of humanity.

8. There is an inter-relatedness and inter-dependence between the various entities and events that constitute the natural order. This is manifest at the level of the fundamental 'particles' which can be understood only in terms of their inter-relations; and at the level of the interconnected webs of systems, from the inorganic to the human, that constitute our terrestrial environment.

9. The processes of nature have an inbuilt tendency to produce forms of increased complexity, and this, too, is intelligible in purely scientific terms.

10. One viable route of development has led to the increased sensitivity to and awareness of the environment, through developed nervous systems, and so to pain as a warning signal. This awareness develops into consciousness and, at least in humanity, intelligent self-consciousness with a concomitant increase in the flexibility that enhances survival and reproduction. This increase in self-consciousness is indeed the basis of what seems worthwhile in human life and culture: - inter-personal relations, art, religion, language, science itself. But along with this development of consciousness and self-consciousness, has arisen a greater possibility of suffering.

D. Development of the Christian Understanding of God as Creator in the Light of this Scientific Perspective

1. The fact that so much of the universe is intelligible can strengthen faith in God rather than weaken it. It is not true that God is only to be sought in events which science cannot yet explain. Any such 'God of the gaps' tends to disappear as science develops.

2. The traditional picture of God 'sustaining' the universe can now better be seen in terms of God's continuous creative action. God creates in, with and under the processes science describes. God is still creating.

3. So God is present in and to the world, i.e., God is immanent in it but, as the One who gives it being, also transcends it. So the world can be said to be 'in God' (God is present to all of it, at all times, in all places), and yet the ultimate being of God is 'more than' the world.

4. There is a key problem for our times in how we conceive of God acting in the world for those who accept the scientific picture of the world as a connected web of events intelligible to the sciences. Some Christian thinkers simply wish to affirm that God works in and through the processes the sciences describe and these processes in themselves constitute God's mode of activity in the world. Others do not think this is enough and wish to speak of God's 'love' drawing in the events in a direction to fulfill God's aims.

5. The Christian faith affirms that God is Love, and as Love has joy in creation. The abundance and diversity of creation, especially the variety of living organisms, can be interpreted as reflecting the Creator's joy in creation and abundance of grace. This includes the non-human creation as well as the human ("Not a sparrow falls to the ground...").

6. Nevertheless, the significance of God's creative work is most fully seen in those creatures, in particular

ourselves, which are able to make some conscious response to the fresh possibilities God opens up.

7. Since God is present 'in, with and under' all the changing events of the world, the world's sufferings, as well as its creative possibilities, find their reflection in our understanding of God's being. God suffers in and with created beings, both as they persist and in the process of bringing forth the new. The Incarnation and the Cross point beyond themselves and the redemption of humanity to the mystery of suffering within the whole created order.

8. Insofar as human beings are self-conscious, self-transcendent and free, they can respond to God and consciously become co-creators with God - or refuse to do so, as only too manifest in, for instance, the current despoliation of the environment. Our very self-consciousness and freedom make us aware of evil as well as good and of the root of sin within us.

9. In human self-transcendence and freedom, part of the created order has come to reflect God's transcendence and become capable of responding personally to God.

10. Questions about the purpose of creation have usually been answered in terms of the development of this created freedom of humanity and its fulfilment in love. In affirming this, we now in addition also have to see all-that-is as created and being created by God. That is, we must as human co-creators with God attempt to have a theo-centric perspective of nature and this should be made the basis of any Christian environmental ethic. In the providence of God, the created order is an inter-connected web of systems at many levels from the inorganic to the human, and any ethic must recognise this.

III. Towards a Theocentric Ethic

A theocentric perspective toward nature holds together both poles of our understanding - the specifically human and the broader context of the whole natural world in which human life is set. A theocentric ethic tries to give value to both, avoiding on the one hand the mistake of seeing all value as human value, and on the other hand the the mistake of failing to accept our human responsibility for much of the world's evil and our call to new life in Christ. God holds all aspects of creation together in interdependence and creative tension. God's presence in all creation reveals to us that in addition to human beings other creatures are also subjects that have a claim upon us. Non-human creatures are not merely objects to be used for our pleasure or instruments for human purposes.

We are in fact part of a community of life which forms a single interrelated whole, and in which subjects other than ourselves have their own intrinsic value. How far within the web of life this intrinsic value extends, and how different values are related to one another, are matters of much debate. A sound environmental ethic, however, needs some vision of this kind to sustain it if it is not to become transformed into yet

another means of asserting the overriding importance of human interests.

Unless there is respect for the freedom of all creatures to be themselves, there is unlikely to be respect for the freedom of all people to be themselves. Within the community of life freedom is indivisible. Here our consideration of the moral aspect of "the integrity of creation" is clearly tied to the ideas of "justice" and "peace". Liberation is to function at all levels of the created order. All three terms, "justice", "peace", and "the integrity of creation" are to be recognized as indispensable dimensions of a contemporary Christian ethic. With this awareness, we can work to build a moral framework capable of providing significant and inclusive nurture for all of God's people and their fellows-in-creation. Then we might be freed from a proud, human-centred ethic that has plagued many of our respective traditions for a very long time.

IV. Meanings of "The Integrity of Creation"

(Note the definitions of "The Integrity of Creation" in the paper by Douglas John Hall, Amsterdam Document 1987).

A. The natural order has an observed interconnectedness and so an integrity in this sense.

B. From a theocentric perspective (as delineated in sections II and III, above), the creation in all its aspects is of value to God -- and hence is to be respected by us. "The integrity of creation" in this sense refers to the intrinsic and instrumental value of each creature in its relationship to its environment and to God. The determination of precisely how each creature and its interrelationships might best be valued should be an important part of the JPIC agenda. It is very important to recognize that we human beings are an integral part of a vast community of life, an interconnected whole.

C. These considerations are related to the idea of an eschaton (an "end") and its relationship with the Kingdom of God, in which our hope is expressed that an ultimate harmony will be restored to creation, in which "God will be all in all" (I Corinthians 15:28).

V. Recommendations for Considerations by the JPIC Programme of the WCC and for the Future Agenda of the Church and Society Working Group

A. Further articulation of the theology of nature and the theocentric ethic outlined in this paper is needed. It is recommended that the Church and Society sub-unit develop these ideas further, by holding a small consultation to address them in the latter half of 1988. It is proposed that from ten to twelve persons from various parts of the world present papers at this meeting, with the object of preparing for publication a volume that will consist of these papers, an introduction, and a report of the consultation.

B. A reconsideration of the biological manipulation of life, is necessary and should include the following items:

1. genetic engineering;

2. in vitro fertilization and its ramifications (including the matter of frozen embryos);

3. the patenting of life-forms;

Discussions on these and similar issues should be undertaken in consultation with non-Christians and include inter-faith dialogue.

C. We need to engage in a Christian critique of some of the current secular literature on global environmental concerns, e.g. the report of the World Commission on Environment and Development (published in English as Our Common Future); N.N. Moiseyev, V.V. Alexandrov, A.M. Tarko, Man and Biosphere (Moscow, 1985); and I.T. Frolov, ed., Horizons of Ecological Knowledge: Social Philosophical Problems, (Moscow, 1986).

D. We must study attempts to find patterns of sustainable development that avoid critical threats to the environment.

E. We must forge links with non-church agencies having environmental concerns, such as the International Union for the Conservation of Nature, the World Wildlife Fund and the successor to the World Commission on Environment and Development.

REPORT OF SOCIAL ETHICS GROUP

Introduction

We are concerned in the first instance with the manner in which Church and Society or any other sub-unit or any unit of the WCC should approach questions of social ethics, and the form in which it presents its studies. We go on to make recommendations concerning content. The time has surely come to appraise the work which has been done since the Geneva Conference of 1966, the last major ecumenical effort in this area. We had the advantage of a paper by Professor James Gustafson analysing Church and Society documents in terms of the varieties of moral discourse they exemplify. We found this extremely valuable, and we think that it will be useful to a wider constituency within the WCC itself, and to all groups within the churches working on issues of social responsibility.

Point 1 (Types of moral discourse)

The delineation of four types of moral discourse, prophetic, narrative, ethical and policy is intended to stimulate awareness of the particular functions each has in ecumenical social ethics, i.e., the different audiences whose attention and concern is desired. Focus on one variety is proper for specific purposes (e.g. whether churches or the general public is addressed); but the relations between them should be considered, particularly when policy recommendations are proposed. Care should be taken to make as clear as possible the connecting ethical arguments between prophetic pronouncements or narratives on the one hand and policy recommendations on the other.

Point 2 (Review of work done)

Gustafson's paper suggests that a body of social ethical "doctrine" might well be inferred from the work of Church and Society since 1966. At least one element emerges, that the criterion in distributive ethics should be need, though neither the grounds for, nor the nature of this concept are clearly explained. The group proposes that an analysis of the content of the literature be made to see whether there are other items on which there is an apparent consensus. If there is such a body of informal ecumenical social doctrine, it can be taken as assumed in subsequent work, and attention specifically drawn to it within the constituency of the WCC. The group proposes that papers be written to provide the basic biblical-doctrinal ground for such themes, including the conclusion concerning distributive justice and showing why other bases, such as merit, are inadequate from Christian perspectives. In addition a study should be made of any significant discontinuities in attention to social issues which have occurred since 1966, in order

1. to examine how creative and responsive Church and Society has been;

2. to raise awareness to the range of possible issues, and

3. to alert the need to justify priorities adopted at any particular time as against other issues which have been ignored.

4. Lastly in considering work done since 1966 the group proposes that a comparison be made with that done in the same area by

official Roman Catholic sources since Vatican II.

To complete these surveys might be expected to require the work of a researcher for about six months.

Point 3 (Form of presentation)

The group recommends that Church and Society be mindful of the distinction between

a. prescriptive policy pronouncements and recommendations, on the one hand, and

b. literature designed to inform and sensitise member churches about social issues on the other. The group recommends that priority be given to the latter task. It should help our churches to see

1. what biblical-doctrinal reasons there are for a particular concern;

2. what empirical data and social analyses are necessary;

3. what ethical principles and human values are at stake;

4. why priority should be given to certain issues and values at particular times and places, and

5. what access to power is needed to affect the outcome.

One function of case studies, e.g. that of the Marshall Islands, would be to illustrate how churches can engage in this process of moral discernment in other contexts. The group recommends that the formation of detailed and precise policy recommendations be restricted to issues on which a clear consensus emerges of their morally critical nature. Explicit theological-ethical arguments should be made in support of such recommendations, showing how the link between the two is made; and provision should also be made for those participants in the study who may disagree with these policy recommendations to present a similarly argued case if they wish.

Point 4 (Language)

With its plural confessional constituency and the global variety of the cultures within which it works, the WCC has the problem of presenting its material in such language that its content does not seem alien to parts of its constituency, so that the document is either ignored, or misunderstood and unnecessary confusion results. Doubtless total success in presentation will not be achieved, but the WCC has members of staff who can check documents with this problem in mind before they are issued; and those who drew them up should be prepared for such verbal modifications as are necessary to this end.

Point 5 (Oecumenicity)

Care should be taken that relevant work from all the WCC constituency is made available. For example we have reason to believe that there is Orthodox work in the field of social ethics in languages not easily

accessible to much of the WCC constituency. Some has been translated only recently into more widely used languages and some has not. The group proposes that in both cases steps should be taken to make this material more readily available.

Point 6 (Retrieval system)

There is danger of work in this area being put aside and forgotten as committee members and staff change, and therefore of it being repeated; or of similar work being done within different sub-units and units of the WCC. This wastes resources. In cooperation with the Library we suggest that a retrieval system be instituted. Furthermore when new issues are taken up the first step should be to find out what empirical, conceptual and analytic work is being undertaken by other agencies, very often secular ones. Then the evidence can be interpreted in the light of theological and ethical criteria, an attempt made to fill any gaps, and the study orientated to aspects which are of special concern to the churches. These methods can be brought to bear on new issues as they arise, such as AIDS.

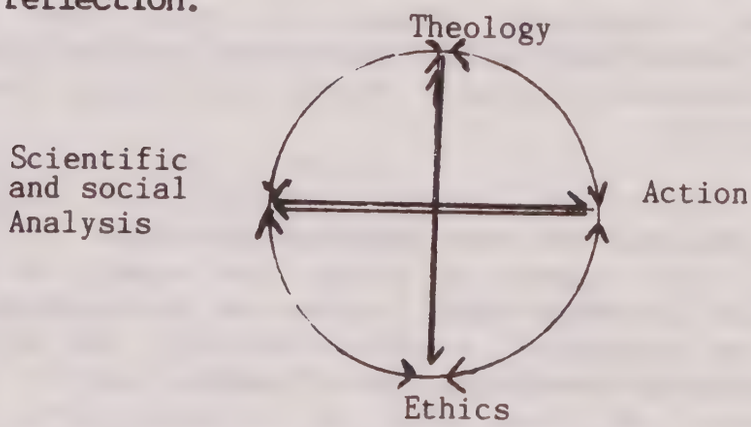
REPORT OF THE SUB-GROUP - SOCIETY, TECHNOLOGY AND ENVIRONMENT:

Church Responses (Guidelines for case studies)

The Working Committee of the Sub-unit on Church and Society met at Glion and organized most of its work in core groups. The core group on case studies met for several sessions.

It is the task of this group to conceptualize the interaction between theory and praxis, theology and action especially in the field of society, technology and environment. Reflection on and evaluation of churches' response to specific situations will be of help in the future design of appropriate action.

A conceptualization suggested at the Bossey meeting in April 1986, was the "Bossey Circle". This indicates the interrelationship of the four elements: theology, ethics, social and scientific analysis and action. However, in what way this interrelationship is to be established and how it helps both our action and our theological and ethical learning and reflection is still to be established. The aim of the proposed publication is to record and study various cases of church action, in different contexts, and accompany the empirical report with theoretical and ethical reflection.



It is recognised that many of the issues raised at Manila, Amsterdam and Glion, could be profitably raised in a comparative fashion in Africa, the Pacific and Latin America.

It is recognized that both theological and ethical studies on the one hand, and concrete action and involvement on the other, are necessary and mutually enrich each other. However, the methods used in expressing Christian social ethics and theology in actions need to be studied and reflected upon further.

At Potsdam it was felt that systematic procedures for study and evaluation would be useful, and could act as a guide in this self-reflective process of the churches involved in action (see Potsdam Report, p.32).

It was decided that a short booklet, presenting a few case studies of church actions with respect to pressing technological and associated social ills would be useful. These case studies would be presented together with some reflection on the opportunities, the evaluation and the inherent problems created by these actions. Such a publication will

by no means attempt to provide comprehensive answers to all of the vast field of questions that they raise, but rather the case studies will be selected with the hope of deepening Christian understanding and reflection upon the churches' methods of witnessing to its theological beliefs, by means of a few specific actions within and in the face of society.

Draft Outline of Proposed Case Study Booklet

I. Introduction

This should include:

1. A brief background into the history of Church and Society concerns with the self-reflective and self-enhancing relationship between theology and action, as this concern developed and deepened from Bossey to Potsdam and to Glion. The Bossey circle should be explained.

2. The purpose, objectives and limitations of the brief study booklet should be stated:

   a) It will employ an inductive approach, reflecting on a few selected studies of what churches actually are doing.

   b) It will not, therefore, attempt to enter into an in-depth theological justification for witnessing to the faith, or deal with the relationship between church and secular struggles such as those for JPIC.

   c) We, in the Church and Society sub-unit, are engaged in the ecumenical sharing of our experiences both of joy and of frustration, with respect to church involvement in the problems of the world. In these case studies we are participating in a reflection on ecumenical resource sharing, and expressing our common involvement in this process of reflection.

   d) It hopes that these reflections may assist some groups and churches in assessing how to use their talents and energy in the most fruitful way.

II. Identification of the Social Context

1. Each case study should be prefaced by a brief note on the context within which the Church is witnessing and working at that specific time and place (for example, is it a state church, a diaspora church, or a minority church, is it growing or diminishing, is it one of many competitive denominations, or is it an indigenous united church or an ecumenical coalition)?

2. The overall social response to the Church in general should be noted, (for example, are its views seen by outsiders as important or unimportant to the social problems, or is it seen as providing only 'private religion'?).

3. Other important and relevant variables of the social environmental phenomena might be noted or summarized in graphs or tables.

III. Identifying the types of issues

1. Within a church group members will usually disagree on political, social and economic issues due to their varied social backgrounds.

2. It is often difficult to assess what can actually be achieved in the midst of a power struggle.

3. Church action related to huge problems such as: the present environmental pollution, exhaustion of resources, inequality and oppression in social relations, militarization, etc., requires criteria for setting priorities and singling out targets.

4. The case studies should, in each case address the questions:

   - of how and why that church group decided to become involved in a particular issue;

   - of how they decided upon whether to take a moderate or more radical position;

   - of how they mobilized support from their members.

IV. Identifying the types of action

Churches may have an impact on actual developments by:

1. setting examples of new ways of life and work themselves;

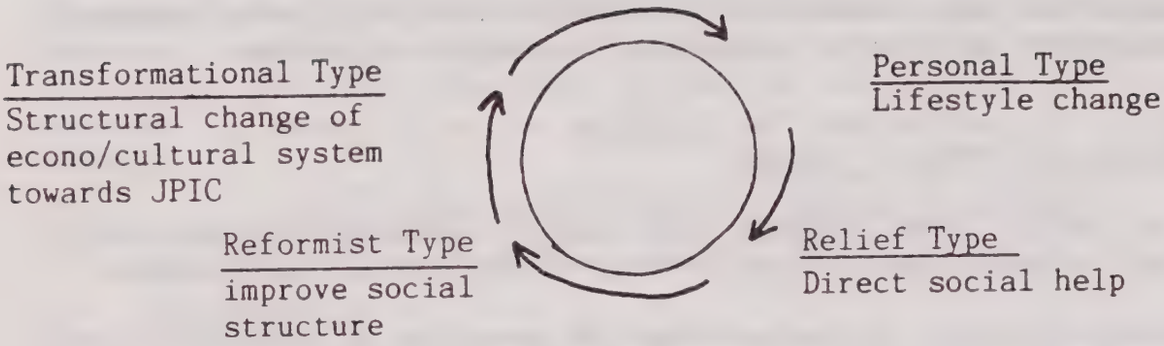
2. exerting direct pressure on governments, businesses or other powerful organizations, by such means as lobbying, campaigning, using other publicity, or by silent diplomacy;

3. injecting more or less authoritative opinions into the public arena which may influence public opinion;

4. acting through their members, laymen and women in their own right.

5. a combination of these means of action. It might be expected that the impact will be greater the more these types of action coincide. However, in practice they sometimes contradict one another.

Church responses to specific problems are generally complex, and while varying from calling for a change in personal life-style to the transformation of society, the varied responses are not exclusive and, in fact, are inextricably related as indicated in the diagramme.



V. Implementing the selected strategies

The case studies should include suggestions for

1. doing planning, selecting realizable goals

2. training for action

3. dealing with barriers

4. identifying allies.

VI. Evaluation

The evaluation may be extremely useful in the context of ecumenical sharing, to enable as to equip one another for action and service, and to be at least aware of some of the problems and pitfalls encounteredd by others. Helpful evaluations might include:

1. Comments on the extent and kinds of social resistance encountered by the church;

2. ways of dealing with the fear of polarization within the church, and of different opinions among church members leading to conflict;

3. difficulties experienced in mobilizing membership;

4. evaluation of the actual extent of changes consequent to action;

5. handling the failure to have any marked impact, and the feeling of impotence;

6. theological reflection accompanying all stages of action and the way this aids Christian growth.

VII. Conclusion

An invitation to churches to review both their social action policies, and the selection of issues in which they are involved, and to consider ways in which to become more effective in their own context, given the resources they have at their disposal.

Recommendations of the Sub-unit

1. Group members are requested to forward material on case studies.

2. Three group members will work on preparing a draft: Theodor Leuenberger, Mady Laeyendecker-Thung and Ulrich Ratsch.

3. The group requests that staff time be given to this preparation.

REPORT OF THE NUCLEAR ENERGY CORE GROUP

I. Introduction

The group met for a day in Glion on 9.10.87 to consider two questions:

1. What has happened since 1979 (when the WCC Central Committee found nuclear power a conditional good and the conference at MIT recommended a five-year moratorium on nuclear power), that would justify re-opening the discussion on nuclear power within the WCC?

2. If the discussion were to re-open what essential conditions would have to be met in order that the outcome would be a productive one, and what topics and issues would have to be taken up in such a discussion?

II. The group has found that there have been a number of significant developments since 1979.

a. The Chernobyl accident on April 26, 1986 has heightened public concern about the safety of nuclear power and the potential health and genetic hazards that such accidents entail.

b. The fact that no significant progress has been made towards resolving the very serious problems of radioactive waste disposal and the decommissioning of aged nuclear power plants.

c. The experience of the global nuclear industry during the past decade which is characterized by sharply increasing costs of installation, and the precipitous decline in new starts of nuclear power generating plants: In the U.S. 107 reactors have been cancelled, the last order of a non-cancelled reactor was in 1974, no more than four reactors are scheduled to be completed after 1988. It is expected that there will be less nuclear power in the world in the year 2000 than at the present time. The world is transiting into a halting nuclear power growth in sharp contrast to the rapid growth anticipated before the Three Mile Island accident in late March 1979.

d. Opinion about nuclear power is more divided now than ever before. No consensus exists among scientists, politicians, or even the electrical generation industry itself. This profound scepticism derives in part from the abscence of unbiased, objective information about numerous aspects of nuclear power, and the fact that not a single long-term waste disposal programme is in place.

As a consequence, the group recommends that the WCC reopens the discussion on nuclear power, but under some very specific conditions.

III. The group believes that an inadequate discussion would be worse than none and therefore recommends that the following guidelines are observed.

a. Since the topic of nuclear energy cannot be discussed fully and meaningfully in all its technical, economic, health, political, ethical and socio-cultural ramifications if examined during a single instance such a conference rather than as an on-ongoing long-term

process, it is the recommendation of the group that the WCC provide the necessary "machinery" for a broad and complete discussion of the various facets of nuclear power. Specifically the group seriously doubts that the topic of nuclear power can be adequately dealt with in a single conference, and believes that adequate programming, staffing and finances are requisite to a responsible treatment of the persistent issues that characterize nuclear power.

b. That the discussion of nuclear power be nested in the broader issue of energy for the future of JPIC, and the "quality of life" issues so closely related to the availability and production of energy.

c. Given the urgency and critical nature of several problems related to nuclear energy (the anxiety in the Pacific regarding the exposure to radiation, the political implications of uranium exporting from several African nations, the absence of public participation in decision-making regarding nuclear power, etc.) the group believes that a condition for a successful discussion of nuclear power is that it does not remain on the academic level, but instead addresses the numerous pragmatic concerns of many churches around the world.

IV. During its deliberations the group on nuclear energy identified a provisional, incomplete list of topics which, we believe, should be explored among others in any future discussion of nuclear power:

a. The technical possibility of producing nuclear power "safely" in the future.

b. The related questions of what "safely" implies, and how risks can be realistically assessed.

c. Assessment of all the types of proposed energy technologies, including small-scale nuclear reactors especially designed for new markets.

d. The levels of energy consumption which are in consonance with the imperative of JPIC criteria, the ways of meeting these, and the role of alternatives to nuclear power-efficiency, conservation, renewable resources, improved uses of fossil fuels - in meeting the energy needs of different countries in various economic situations

(i) in the near term (10-25 years)

(ii) in the distant future(50-100 years).

e. The prospects that the generation of nuclear power, especially in the context of a "plutonium economy" will abbreviate personal freedoms, enhance terrorism, proliferate nuclear weapons and in general reduce the security of individuals and nations alike.

f. The ideological connotations of accepting or rejecting nuclear power.

g. The mentality and culture to which people may become conditioned by a high-tech nuclear society.

h. The role of nuclear power in the preparation of nations to acquire nuclear weapons.

i. The implications to countries from which raw material for nuclear power is taken.

V. Separate recommendation.

Throughout its discussion the group returned again and again to the multifacetted relationship between nuclear power and nuclear weapons. The group recognized first that the risks presented by the existence and further testing and production of nuclear weapons on Earth, vastly exceeds the risks inherent in nuclear power, and second that the entire issue of nuclear disarmament transcended the mandate of the group.

As a consequence the group unanimously makes the separate recommendation that the WCC seriously considers a new debate on the risks nuclear armaments represent for the integrity of creation, and ways to abolish them from the face of the earth.

VI.

In the plenary of the Working Committee it was proposed that the ongoing debate should consist of a series of small conferences concerned with specific aspects (e.g. health, finance, etc.) interspersed with research papers leading towards a second major conference, followed by the production of a book. It was noted that many studies have already been done, but none had this broad mandate. Therefore, future work should be undertaken only after consultation with relevant existing agencies and surveys of existing literature.

RE-INTEGRATING GOD'S CREATION

B. Schultz

Résumé

This paper is a full report of the workshop held in Amsterdam May 1987 to debate "The Integrity of Creation".

The conference proceedings were produced as a discussion paper and fell naturally into three main parts:
1. the disintegration of creation (including: our view of creation, how and why creation disentegrated and redefinitions of sustainability),
2. the Integrity of Creation (including: misleading alternatives, destructive conventional paradigms, the meaning of the term "creation", the Biblical and theological background to the term "creation"),
3. the reintegration of creation (including a discussion on what should be done, theological implications, ecological responsibility and what the contribution of churches might be.
In addition, the reader will find a postcript and a selected bibliography on the wholeness of God's creation.

The paper is neither a statement of the WCC as a whole, nor does it represent the opinion of the Working Committee - but it is an invitation to all readers to contibute their points of view and reactions, etc., so that the world-wide reflection on the integrity of creation might be enriched, and so that there might be more involvement in action to re-integrate God's whole creation.

The full text is published as No. 3 in the Church and Society Document Series, ands is obtainable free upon request.

NATURE: ITS STATUS IN THEOLOGICAL ETHICS

J. M. Gustafson

Resumé

Protestant theology has been more occupied with history than with nature. This has affected the way in which it has addressed medical ethics. Catholic theology and ethics has traditionally worked from the basis of a divine ordering and end of the natural world; the work of Thomas Aquinas has provided the traditional foundations for Catholic ethics. Two important questions have to be raised about any ethics that is grounded in the natural order.

1) How is nature perceived and conceived?

2) How does the concept of nature function in the ethics of particular tradition?

Analysis is made of Thomas's answers to these two questions. Three further questions are examined:

1) Is there an essence to the human (or to other species of life) in the sense that Catholic "essentialism" has defended?

2) Is there an end not only of human activities but of other aspects of creation that can be clearly defined?

3) Is the assumed anthropocentric interpretation of man's relation to the rest of creation correct?

Three conclusions follow from the discussion of these questions:

1) The ordering of nature does not sustain a morality that backs the homocentrism and individualism that traditional natural law has warranted.

2) Nature does not provide an unchanging order from which moral inferences can be derived.

3) The ultimate destiny of the world is not in human hands, and it is not likely to be the Kingdom of God as has been understood in the Christian tradition.

The full text may be found in: LOGOS, Philosophic Issues in Christian Perspective, Vol. 3, pp. 2-23, Department of Philosophy, University of Santa Clara, Santa Clara, CA 95053.

GOD, HUMANITY AND NATURE IN RELATION TO JUSTICE AND PEACE

Jesse N. K. Mugambi

Résumé

The purpose of this book is threefold. First, the author emphasises the need to relate the current discussion concerning God, Humanity and Nature, to previous ecumenical debates and studies on similar themes. The first two chapters of the book are intended to meet this objective in an introductory manner. They are not exhaustive, but they provide references which the interested reader may follow up. The first chapter is entitled "God, Humanity and Nature in Ecumenical Discussion", while the title of the second chapter is "Justice, Peace and the Integrity of Creation in the Ecumenical Agenda". The Church and Sociuety Sub-Unit is urged to build on the work and consensus that has been already accomplished, rather than trying to repeat what has already been done more effectively by other sub-units, or by the same sub-unit during earlier mandates of the WCC.

Secondly, the book responds to the observation in the Report of the Programme Unit on Faith and Witness, submitted to the Central Committee of the WCC, dated Geneva, July 1984, (p.26): "The fact that justice and peace are often isolated from the integrity of creation may partly be due to a western philosophical and theological tradition which distinguishes sharply between God and humanity on the one hand, and the rest of creation on the other. If this is the case, then the search for more environmentally sensitive, appropriate and holistic science and technology may be assisted by more culturally diverse theological studies of the relationship between God, humanity and nature". The third chapter of the book is entitled "The African Experience of God, Humanity and Nature". It is intended to contribute new insights into the search for a more ecologically integrated theology, appreciating the African world-view. The fourth chapter reinforces these insights by presenting the author's "Reflections on Man's Valuation of Matter in relation to Duration and Space." This chapter emphasises that Substance, Duration and Space are not independent concepts; they can only be defined and understood in terms of one another, within a particular world-view. Therefore, it is necessary always to appreciate the world-view which is presupposed whenever a perspective or value system is proclaimed as a favourable option. The so-called scientific world-view is culturally conditioned by the intellectual tradition in which it has been developed and propagated - but there are other world-views which also deserve to be taken seriously.

Thirdly, the following two chapters (five and six) deal with the alleged conflict between empirical science and Christian theology. The author's approach is philosophical and the objective is to show that epistemologically there ought to be no conflict between empirical science and Christian theology, because each of these represents a distinct "mode of thought and expression". At best, empirical science and Christian theology ought to be epistemologically complementary, with philosophy also adding another dimension to man's quest for comprehensive knowledge. Unfortunately, empiricism, especially in the twentieth century, has tended to frown upon theology, metaphysics, ethics and aesthetics, through an incomplete dichotomy between "fact" and "value". There is

no rational ground for placing fact above value in epistemology. Therefore, science cannot rightly claim a monopoly to valid knowledge.

In the concluding chapter the author offers a critique of what he calls Euro-Hellenic epistemology. The title of his seventh chapter is "Between Subjectivity and Objectivity". He suggests that Theology, as a epistemological enquiry, falls between subjective response and objective analysis. Its role cannot be replaced by another discipline and any society or culture that dispenses with theology would lack an important dimension in its epistemology. He concludes the book by favourably quoting from Archbishop John Habgood's book Religion and Science, which strikes cautious balance between the claims of empirical science and those of Christian Theology.

The full text of this paper is published in the Church and Society Documents No. 2, Sept. 1987.

DELIVERANCE AND RENEWAL: THE INTEGRITY OF CREATION

Heino Falcke

Résumé

In this article a church leader from the German Democratic Republic traces the relatively new concept of "integrity of creation" through the recent ecumenical debate.

While science and technology confer such power that the very survival of the natural world is threatened, it is necessary to focus on the political and economic forces and interests that set these destructive processes in motion.

The ecumenical movement has led to a convergence in the understanding of the reality of creation and humanity's place within it. The doctrine of salvation applies not only to individuals but also embraces physical life and the world of nature in its entirety. From Africa and Asia comes a holistic vision that integrates Christian faith, cultural traditions and scientific and technological knowledge. While expressed differently within differing cultural or confessional contexts, this holistic conviction could form the core of common convictions in an ecumenical ecological creed.

The full text of this article is published in One World, April 1987, p. 15-18

CHANCE AND PURPOSE IN EVOLUTION

Charles Birch

There has been a tendency in the Western world to make a dichotomy between humanity and the rest of nature. The book of Genesis refers to man as "made in the image of God". A widespread anthropocentric interpretation of this is that no other creature is so made. As Moltmann (1985 p. 35) has said "According to the anthropocentric world view, heaven and earth were made for the sake of human beings, and the human being is the crown of creation; and this is certainly what is claimed by both its supporters and its critics as biblical tradition. But it is unbiblical ... So if Christian theology wants to find the wisdom in dealing with creation which accords with belief in creation, it must free that belief from the modern anthropocentric view of the world". We are part of nature. Tillich (1967 p. 422) affirms "We come from nature. If God had nothing to do with nature, he finally has nothing to do with our total being because we are nature." This is affirmed in the book of Samuel which speaks of humans as being "bound in the bundle of the living".

The strong affirmation of biology, ever since Charles Darwin, is that our roots are in nature. Yet our branches reach into the heavens. It is no denial of the uniqueness of humanity to also affirm our continuity with the rest of the living world.

The doctrine of evolution is a doctrine of the connectedness of all life, both as it exists today and in its total history since the origin of life. This is symbolised by the tree of life in which the twigs represent the different forms or species connected one to another by branches which in turn stem from one main trunk. The doctrine has two parts, one demonstrates that such a tree exists, the second demonstrates how it came to be.

The first half of Darwin's "The Origin of Species" is concerned with the mechanism of evolution, the second half is concerned with establishing the tree of life. Darwin quite rightly believed that no one would take much notice of the second claim unless it was supported by a credible theory of how it happened. His theory put a great deal of emphasis on chance events as contrasted with deterministic design. Indeed, some Darwinians (though not Darwin himself) have claimed, with molecular biologist Jacques Monod (1974 p. 110) that "Chance alone is at the source of every innovation, of all creation in the biosphere." For Monod and his followers, chance is the one and only principle in nature. He contrasts his position with those who seek to find in every detail of nature evidence of deterministic design in which living organisms are compared with contrivances such as a watch which a man designs. There is not much room for chance in designing a watch. There is no room for chance in designing a space vehicle. It is thoroughly determined by its designers. The deists of the 18th and 19th centuries said the design of nature was like that. The order of creation is the creation of an all powerful deity who left nothing to chance, nor for that matter, to the entities the deity created. The world and all that is in it are thoroughly determined from outside. This is the concept of deus ex machina.

The Meaning of Chance in Evolution

Darwin began his epic voyage around the world a convinced determinist and a deist at that. He had read Paley's "Natural Theology" as a student at Cambridge University and was impressed by its arguments for the existence of God from the design of nature. The "doctrine of divine carpentry", as a later vice-chancellor of Cambridge called it, was promulgated by bishops from their pulpits. Students at the great universities were expected to believe it. Scientists were expected to provide more and more evidence for it. In that respect Darwin was a traitor. His observations on the continents of the southern hemisphere changed his views of the source of the order in nature. The author of "The Origin of Species" had failed to perform what the public expected of its biologists. It was as if the Pope had announced his conversion to Buddhism. Darwin made three discoveries: (i) nature was not made complete and perfect once and for all time, it was still in process of being made, (ii) the process involved a "struggle for existence", (iii) the process involved chance. What could have been more devastating for the design thesis than that? - imperfection, stuggle and chance at the heart of the creative process!

The element of chance in Darwin's theory was the genetical variation on which natural selection acted. Instead of the tiger being designed with its stripes for camouflage once and for all, Darwin invoked the notion that originally tigers had all sorts of patterns on their coats. This was a consequence of chance genetic variation. But only that pattern persisted that gave the animal an advantage in its struggle for existence and that could be inherited. This is the principle of "chance and necessity" which Monod considered to be the one and only principle in nature.

Darwinism was a shattering blow to the notion that the order of nature was completely determined in all its details by a deity outside nature. This does not mean that Darwin showed, as many claim, that there was no purpose in nature. What he did show was that existing views of design by an external agent were invalid. Darwin's theory did nothing to prove that God did not exist, but it did destroy the only argument by which many people thought the existence of God could be established.

Neo-Darwinism, which is the dominant view of biologists today, is an interpretation of Darwinism in terms of a modern understanding of genetics. The basic source of genetic variation in the living world is chance variation of the DNA molecule. This molecule can come in an infinite variety of forms, which form is a matter of chance. At the beginning of life on earth there may have been just one DNA molecule. The DNA molecule has the peculiar capacity to be able to replicate in the appropriate environment. Had it replicated for ever with deterministic perfection, that is without any chance variations, there would have been no evolution. Evolution was, and is, utterly dependent upon occasional change in the molecule when it replicates. This is what mutation is in its basic form. It involves a rearrangement of the base-pairs in the steps of the ladder-like DNA molecule. This basic event in evolution is a random or chance change, an accident if you will, during replication. One might well expect that accidental changes in DNA during replication would be deleterious to the organism that harbours the changed DNA. And indeed that is the case. Most mutations are deleterious. Some few are not. By chance they confer some advantage upon the organism that harbours them.

The meaning of chance in this context is quite specific. It is often misunderstood. It does not mean without a cause. We know many of the causes of mutation, such as radiation. Whether or not a particular mutation will increase the chance of its possessor to survive and reproduce is dependent upon a second chain of events which is quite independent of the event of mutation itself. This second chain of events has to do with the environment in which the organism finds itself. For example, the DNA of a fly mutates to confer upon its offspring resistance to the insecticide DDT. This chain of events is quite unrelated to whether or not the environment contains DDT. Indeed there is good evidence that such mutant genes were being produced long before DDT was invented. When the environment does not contain DDT the mutation confers no particular advantage upon the organism. It is important to understand that the DDT doesn't itself cause the mutation. All it does is act as an agent of selection, eliminating those insects which lack the gene for resistance and enabling those that have it to survive and reproduce. The important point is that the two causal chains are entirely independent, that is the particular sort of mutation and the environment at that moment.

We say that mutation is random in relation to the needs of the organism at the time the mutation occurs. That the two chains of events intersect with advantage to the organism is a matter of chance or accident. Darwinism thus introduced an indeterminacy into the concept of the evolutionary process. A determinist might want to argue that there is an omnipotent observer who sees that the appropriate mutation occurs at the appropriate time so that the two chains of events interact with benefit to the organism. That this is not the case is a scientific fact known from careful experiments. There are no two ways about it. All sorts of mutations occur all the time, most are deleterious. By chance, some few are not.

This schematization of the two pathways tends to exaggerate the separation of chance and purpose. The acceptance of a role of chance in nature does not exclude a role for purpose. Indeed, as I shall argue it makes a role for purpose possible.

The world of Paley's "Natural Theology" was a completely determined world. The world of Jacques Monod was one of chance and chance alone. There is a third possibility; neither pure determinism nor pure chance alone but chance and purpose together. As Hartshorne (1984 p. 69) has said "Neither pure chance nor the pure absence of chance can explain the world." The recognition of chance and accident in the natural order is critically important for process theology. Without chance there could be no freedom. If the universe and all its happenings were fully determined by some omnipotent power, attributed by some to God, there would be no freedom.

To take chance seriously is the first step in moving away from the concept of deterministic design, whether by an omnipotent designer or as some inbuilt principle of nature. It is also the first step in moving toward a realistic concept of purpose. Monod, who took chance seriously, failed to see its implications for freedom. Chance alone was for him the one and only principle in nature. Darwin never came to this conclusion. Indeed, it seems he was reluctant to admit the reality of chance, despite the role he attributed to it. In this respect he was like Einstein when

he said he could not believe that God plays dice. Darwin probably admired the deterministic universe of Newton. Perhaps he saw himself as the Newton of biology. The key to Darwin's thinking on chance and determinism is not to be found in "The Origin of Species" but in Darwin's correspondence, especially with the Harvard botanist Asa Gray in 1860 and 1861. The first person, so far as I know, to appreciate the significance of this correspondence is Hartshorne (1962 chapter 7 and 1984 chapter 3). The critical passage in Darwin's letter to Asa Gray is the following: "I cannot think that the world ... is the result of chance; and yet I cannot look at each separate thing as the result of Design ... I am, and shall ever remain, in a hopeless muddle" (Darwin F 1880 Vol. 22 pp.353-4). And (p. 378) "But I know that I am in the same sort of muddle ... as all the world seems to be in with respect to freewill, yet with everything supposed to have been foreseen or pre-ordained." Darwin repeatedly declared in his letters to Asa Gray as well as to others that chance cannot explain the world as an ordered whole. Again and again Darwin asks - is it all ordained or is it all a result of chance? Because of his dilemma Darwin gave up theism. At the same time he could see there must be pervasive limitations upon chance since unlimited chance is chaos. Yet he was bewildered. Why?

Hartshorne (1962 p. 207) makes two suggestions. (i) Darwin tended, like many authors, to think of science as committed to determinism; he even suggested that what we call chance may not be chance at all. (ii) It was not apparent to Darwin why cosmic purpose should leave anything to chance. The God of deism was identified with absolute law and non-chance. The dominant theology of his day was of no help to him in this respect. It had no clearly conceived creationist philosophy. God must do everything or nothing. And if God is responsible for everything then why all the evil in the world? To Asa Gray Darwin wrote (Darwin F. 1880 vol. 2 p. 382) "You say that you are in a haze; I am in thick mud; the orthodox would say in fetid, abominable mud; yet I cannot keep out of the question."

The Meaning of Purpose in Evolution

The "mud" in which Darwin found himself immersed, was the opacity which always characterises a deterministic world-view. Darwin argued correctly that the facts of evolution are in conflict with belief in deterministic design by a benevolent designer. But only one of his correspondents suggested to him that God was other than an omnipotent determiner of all the details of nature. That was English vicar and novelist Charles Kingsley. He wrote to Darwin "I have learnt to see that it is just as noble a conception of Deity, to believe that He created primal forms capable of self-development into all forms needful ... as to believe that He required a fresh act of intervention to supply the lacunas which He himself made" (Darin F. 1880 vol. 2 p. 288). And elsewhere Kingsley wrote about Darwin's contribution thus "now that they have got rid of an interfering God - a master magician as I call it - they have to choose between the absolute empire of accident and a living, immanent, ever-working God" (quoted by Raven 1953 p. 177). In his evolutionary epic "The Water Babies", which Kingsley wrote for his children just four years after the publication of "The Origin of Species", he tells of how God "makes things make themselves." There is no evidence that Darwin appreciated Kingsley's alternative to the omnipotent deterministic God of deism.

Darwin needed a Jacques Monod to convince him that chance and accident were essential to the order of nature. He needed also a Charles Hartshorne to persuade him that there was a credible alternative to the deism of Paley and other 19th century divines. But in fact he never did resolve his dilemma of chance and determinism.

Hartshorne (1962 p. 210) hit the nail on the head when he said "There must be something positive limiting chance and something more than mere matter in matter, or Darwinism fails to explain life." What is "the something positive" that limits chance and what is the "something more than mere matter in matter"? The answer to these questions depends upon how we conceive of the origin of the order of nature.

Darwinism rules out the concept of an all-determining orderer. In so doing it opens the door to another concept of ordering. There are only two ways of ordering. One is dictatorial. The other is persuasive. Process theology takes its cue from the latter. The "something more than mere matter in matter" is the concept of the entities of nature as not being substance or mere objects. They are subjects, that is to say they are sentient to the possibilities of their future, within the limitations imposed by their past. There is no such thing as mere matter. Quantum physics certainly opens the door to a non-substantialist concept of matter where the words freedom and choice are relevant. And so far as those entities we call alive are concerned the most characteristic feature about them is not the survival of the fittest but their urge to live. What the entities of creation respond to - "the something positive that limits chance" - are the persuasive possibilities relevant to their future. Order by persuasion is the factor limiting chance. The possibility of chaos and disorder in a lecture theatre full of students is immense. The lecturer, who is any good, will by persuasive influence create a high degree of order in the large class. The students are free to make chaos if they wish. Sometimes they do. But under the influence of a persuasive lecturer they choose not to. That is the nature of order in nature.

We can say with Hartshorne (1984 p. 71) "the only positive explanation of order is the existence of an orderer." The orderer is no longer the Deus ex machina of the deists which Darwin rightly rejected. Kingsley hinted at the alternative when he said that things tend to make themselves. Creativity exists within the entities of the creation. That is the first step in the argument for order. Many people, indeed many Christians, find this difficult to grasp. For as Hartshorne (1962 p. 209) says "Since teleology has been thought of as unilateral creativity on the part of the deity, unshared in any appreciable degree with the creatures, indications that the world had far reaching potentialities for self-creation where naturally startling. But only because creativity had not been grasped in its proper universality, as the principle of existence itself." Today that should be a less startling concept (see Birch and Cobb 1981). Science is leading in that direction as witness for example, the recognition of "self-organisation" as a principle in molecular biology. (Prigogine and Stengers 1984).

The combination of sentience in natural entities, be they electrons or cells or human beings, together with the lure beyond themselves for their possible futures is the source of their creativity. Nuts and bolts can't evolve. They are aggregates of natural entities. Aggregates have no

intrinsic creativity. That belongs to the natural entities such as atoms and molecules which constitute them. Creativity is not simply rearrangement of bits and pieces of stuff like nuts and bolts in simple or complex arrangements. The relation between the individual natural entity and the ensemble of which it is a part is entirely different in a creative agent as compared with a machine. In a machine the entities that compose it maintain their identity, whether the machine be a washing machine or a computer. Not so in a natural entity such as a living cell. As one moves up levels of organisation - electrons, atoms, molecules, cells etc. - the properties of each larger whole are given, not merely by the units of which it is composed but, by the new relations between these units. It is not that the whole is more than the sum of its parts. The parts themselves are redefined and changed as a result of their new relations to each other in the process of evolution from one level to another. An electron in a lump of lead is not the same as an electron in a cell in a human brain. The mechanical assumption of classical physics that it is the same everywhere is no longer a part of quantum physics. All this means that the properties of matter relevant at say the atomic level do not begin to make predictable the properties of matter at the 00llular level, let alone at the level of complex organisms. That is no doubt why, already fifty years ago, the Danish physicist Niels Bohr, advised his students that the new laws of physics were most likely to be discovered in biology.

The parts of a machine have external relations only. They can be pushed and pulled in different directions, but their nature remains unchanged. The parts of a natural entity have, in addition to external relations, internal relations to their environment. That is to say their being, indeed their existence, depends upon internal relations they have to their environment. The idea of an internal relation is of a relation which is constitutive of the character and even the existence of something. We are aware of the role of internal relations in the way in which chosen purposes determine what each of us becomes. Quantum physics recognise the possibility of similar influences at the level of the electron type of entity. These are no longer to be called particles. There are no particles because there are no substances in nature. The word substance is used in this context in its classical meaning as defined by Descartes: "And when we conceive of substance, we merely conceive an existing thing which requires nothing but itself in order to exist." But as Whitehead (1930 p. 12) said "There is no entity, not even God, which requires nothing but itself in order to exist."

Biology is slower than physics in moving away from the substantialist prejudice. It recognises the role of purpose in cultural evolution as I shall indicate. At the level of molecular biology the argument becomes complex, but I believe we are beginning to see a meaning for it there (Birch 1987). Molecular biology, which is the last branch of mechanistic biology may be first to cut itself off. The point I want to make is that science itself is beginning to see the limitations of the substantialist prejudice, the reduction of everything to "mere matter". The new physics and to some extent the new biology recognise the entities of creation as subjects and not simply objects pushed and pulled like billiard balls.

A multitude of creative agents implies the need for the rule of one. Too many cooks spoil the broth! There must be something that sets limits to the confusion and anarchy possible with a multiplicity of creative agents. Individual purposing agents need to be coordinated. The key here

is not manipulation of the entities by an external agent but persuasion. The persuasive ordering principle that coordinates the creativity of a multitude of creative agents is given the name God in process theology. An orchestra consists of many creative players. Each player interprets the score in his or her own way. But the overall coordination is provided by the conductor. God is like a composer-conductor who is writing a score a few bars ahead of the orchestra, taking into account their harmonies and disharmonies as he proposes the next movement of the music. God does not determine the outcome. The power of God is the power of persuasion to harmonise the whole. The brilliant television documentary made in 1984 of Leonard Bernstein conducting rehearsals of his own composition "West Side Story" struck me in this way. The musicians, composer and conductor became one. Bernstein originated the music. Each player was making an interpretation from what he had written and from the grimaces on his face. Sometimes the orchestra seemed to exceed the conductor's expectations and he responded with intense delight. It was clear also that every performance was creatively different, both for the orchestra and for the conductor.

God, instead of being the all powerful manipulator of creation, is its persuader, providing each entity with specific goals or purposes and coordinating the activity of all. "What happens" says Hartshorne (1967 p. 58) "is in no case the product of (God's) creative act alone. Countless choices, including the universally influential choices, intersect to make a world, and how concretely they intersect is not chosen by anyone, nor could it be ... Purpose in multiple form, and chance are not mutually exclusive but complementary; neither makes sense alone".

This argument carries the principle of cultural evolution all down the line of natural entities from the human and the rest of the living world to the entities such as electrons. The idea of cultural evolution, which is most clearly seen in humankind, is that humankind transmits information from one generation to another by teaching and learning so that successive generations learn to purpose their lives in particular ways. For us it has been to learn to control our environment through science and technology and the way we choose to use them creatively or destructively. Through cultural evolution we take charge of much of our environment and that in turn changes the direction of natural selection of genes. The latter becomes less important as cultural evolution takes over. The main differences between us and cave man of hundreds of thousands of years ago is cultural and not genetic. We have good evidence that cultural evolution is a feature in the evolution of mammals and birds and there is evidence that it may apply all down the line (Birch and Cobb 1981). In cultural evolution humans accept the role of purposes that make choice possible. There is no longer any reason to draw a line anywhere and say below that line choice no longer operates at all. Of course the nature of the choice and the degree of freedom are very different at the human level compared say for a frog and ever so much less for the electron.

The modern discovery is that chance and purpose can live together. Indeed one is not possible without the other. There was a chance that life might not have arisen in the universe. A slightly different sequence of events in the first few micro-seconds of the "big bang" would have resulted in a universe of all helium and no hydrogen. Without hydrogen there would subsequently have been no heavy elements such a carbon and iron, which were formed by the fusion of hydrogen nuclei. Heavy elements

are essential for life as we know it. One chain of events led to hydrogen and subsequently to heavy elements. Another chain of events lead from heavy elements to life. The second chain was dependent upon the first. There were indeed many such chains of causes. For example, if the relative masses of protons and neutrons were different by a small fraction of one percent making the proton heavier than the neutron, hydrogen atoms would be unstable. Hydrogen on which the origin of life was dependent could not then have existed. These and other examples suggest that the universe is finely tuned for our existence. The sequence of necessary events seems to put too great a burden on chance. Hence the formation of what some physicists have called the anthropic principle (Barrow and Tipler 1986). In its "strong" version the anthropic principle asserts there must exist a guiding principle which ensures the fine tuning of the cosmos to enable life to evolve. The early states of the universe are to be explained by the fact that they have made subsequent states possible. But, as Eastman and Fales (1984) point out, it is quite fallacious to infer that because the present is sufficient for inferring the occurrence of a given past history, it explains that history. This is no better than supposing that symptoms of syphilis explain syphilis. Physicists who promote the strong anthropic principle seem to think that this universe has been given exactly those properties that ensure the eventual production of physicists. This is the fallacy of a posteriori reasoning or thinking backwards. It is the same fallacy embodied in the deistic explanation of nature that Darwin refuted - that God designed nature in all its details for humans to inhabit. Shades of it are to be found in Montefiore's (1985) advocacy of the anthropic principle in his argument for the existence of God.

If we accept that, the universe in all its details is not determined completely by some outside power, and if we accept a role for chance, accident and persuasive purpose, there is no need to invoke the strong anthropic principle or its deistic variant. The principle of natural selection at the cosmic level together with chance and purpose as organising principles provide another way of looking at the order of the universe. Our universe may be one of many possible universes that could exist, have existed or exist now. Our's happens to be the one in which the physical realities are such that life as we know it could evolve. From the foundations of the universe there was the possibility that life could evolve. But it had to wait the appropriate coincidence of many chains of physical events. Maybe it had to wait trillions of trillions of years. There was no inevitability that the chain of events that led to stable hydrogen and then to heavy elements had to occur. There was always the possibility that they would. The dinosaurs that had dominated the earth for 100 million years became extinct about 65 million years ago. The early mammals lived in the interstices of the dinosaurs' world. Had the dinosaurs continued, the mammals would probably still be small creatures living in these interstices. A conceivable cause of the extinction of the dinosaurs is the impact of some large extraterrestrial body upon earth. Suppose that without it the dinosaurs might not have died out. We know of only one lineage of primates, a little form called Purgatorius that lived before this potential asteroid hit. Suppose this lineage had become extinct? Many lineages of mammals did become extinct at that time. The primates would not have evolved again, as we know evolution does not repeat itself detail for detail like that. In that scenario the impact of a large extraterrestrial body, that greatest of all improbabilities may have been the sine qua non of the development of the primates and hence our existence. And as Gould (1983), who gives us

this scenario, points out, hundreds of other historically contingent improbabilities were also essential parts of human evolution.

The Presence of God in the World

An ecological doctrine of creativity implies a new kind of thinking about God. "The centre of this thinking" says Moltmann (1985 p. 13) "is no longer the distinction between God and the world. The centre is the recognition of the presence of God in the world and the presence of the world in God." And long ago Whitehead (1929 p. 521) said "God is not before all creation, but with all creation". There are three views of the relation of God to creation, only one of which conforms to the ecological doctrine of creativity.

God is identified with the cosmos and in all aspects inseparable from it and all that exists. This is pantheism.

God is not identified with the cosmos and is in all aspects independent of it. This is the classical theism.

God is involved in the cosmos but is not identified with it. This is panentheism.

The position developed by process theology in its ecological model of creation is that of panentheism or what Charles Hartshorne calls neo-classical theism. It has a long tradition that in some of its elements goes back to Hindu scriptures, Lao-tse and parts of the Judeo-Christian scriptures as for example sections of Genesis 1, Psalm 103, Psalm 104: 29-30, Proverbs 8: 22-31 and various parts of the New Testament. Its modern development in the light of science is largely the work of A. N. Whitehead and those process philosophers and theologians who have taken a lead from him.

In process theology the presence of God in the world is referred to, in Whitehead's terminology, as the primordial nature of God. In the ecological model there is a constant tension between chaos and order since order is neither the outcome of one all powerful orderer nor of deterministic necessity. At the heart of the universe, even before there were cells or atoms, there must have been the possibility of these entities coming into existence. The general potentiality of the universe must be somewhere. In Judaism and Christianity this potentiality of the universe is part of the nature of God. These possibilities of the universe are realities that constitute a continuous lure to creation. They are in the primordial mind of God. In God's primordial nature God confronts what is actual in the world with what is possible for it. This is that aspect of God which is the same yesterday, today and forever. God is the ground of order but the order is a changing and developing one as the many become one, else ours is a multiverse and not a universe. The creative activity of God involves the creation of novelty that itself adds to the existing unity. The parts are members of one another. This is both a biblical concept and a principle in quantum physics. God is the "eros of the universe" (Whitehead 1942 p. 292). Where the divine eros meets the human and is truly recognised the only appropriate response is with zest, with all one's heart and soul and mind and strength, or Tillich's phrase - with infinite passion. The response of the creature to the divine eros is passionate and transforming. The pure conservative is

fighting against the essence of the universe.

Multiple creativity makes some disorder and conflict inevitable. It allows for the possibility of great disorder and evil. In the ecological model evil springs from chance and the freedom that allows - not from providence. The reason providence does not eliminate chance is because a world without chance is a world without freedom. For God to completely control the world would be the same as to annihilate it. It follows that it is nonsense to ask the question - why did God allow Vesuvius to pour its molten lava on populated Pompei or why did God allow the holocaust? People who ask these questions have not been liberated from the concept of God as omnipotent dictator of the universe who is responsible for everything that happens and who, if he willed, could change the course of events by sheer fiat. It is this concept that has infused tragedy into the histories of both Christianity and Islam.

The creative working of God's primordial nature includes the concept "in the fulness of time". At each step in the evolutionary process there is a response which is appropriate. There are no short cuts. A billion years ago there was no possibility then and there of humans becoming a reality on earth. A million years ago human values began to be realised, but there was no possibility of a mature society then and there. A Jesus or a Buddha would have been an anachronism a million years ago. In the fulness of time they appeared out of their own societies and some were ready to respond to the call. Bertrand Russel said that if he were God he would have skipped the million years of the dinosaurs and gone straight to man. But God is not a magician, though Bertrand Russel seemed to think this was the main quality endowed upon God by theologians.

The doctrine that the divine element in the world is to be conceived as a persuasive agency, not a coercive one, should be looked upon, says Whitehead (1933 p. 196) as one of the greatest discoveries in the history of religion. It was plainly enunciated by Plato. "Can there be any doubt" asks Whitehead (1942 p. 197) "that the power of Christianity lies in its revelation in act of that which Plato divined in theory?"

The power of the Christian gospel is the experience of divine love in human life that transforms life. The God of the universe who touches us as we experience life in its fulness is vaster than our experience of him. When I go down to the Pacific ocean to swim on its shores I get to know one part of the ocean; its near end. But there is a vast extent of ocean way beyond experience that is nevertheless continuous with that bit of ocean I know. We touch God at the near end, yet that same God extends into the farthest reaches of the universe and there too is persuasive love. This is the full meaning of incarnation. The universe exists by its incarnation of God in itself. It is the sort of universe in which God can be incarnate. God could not be incarnate in a machine! God works in the universe through influence (literally meaning inflowing) as his universal mode of causation.

To see the universe as a whole in this way with the same God working in the universe at large and in the life of Jesus and in our lives was put in highly symbolic language by Paul in his letter to the Colossians about the "Cosmic Christ". In Colossians 1, verse 4 the affirmation "in him all things hang together" is repeated in the rest of the chapter no less than five times. For Paul, God is the God of "all things". Nature as well as human history is the theatre of grace. This panorama is caught up also in

the prologue to St. John's gospel and becomes particularly pointed in John Robinson's paraphrase (Robinson 1967 p. 98) which begins "The clue to the universe as personal was present from the beginning. It was to be found at the level of reality which we call God." It was personal from the beginning. Always it was transcendent to the world. Always it was involved in the world, drawing the world to itself, brooding over the face of the earth.

In God's primordial nature God draws the world to greater richness of experience as each entity responds to possibilities for itself over aeons of evolutionary time. But we ask what value has been achieved if in the long run our earth collapses into the sun and life on earth is no more and indeed if the universe collapses upon itself? That there will come an end to our earth seems inevitable. What then of the purposes of God? What matters matters only if it matters ultimately and it matters ultimately only if it matters everlastingly. And it matters everlastingly only if it matters to the one who is everlasting. We come face to face with the proposition, the faith and the conviction that God in addition to being creative out-going love, is also responsive love. This is Whitehead's doctrine of the consequent nature of God.

The Presence of the World in God

In God's consequent nature God responds to the world as the world is created. And that makes a difference to God. In Whitehead's image God saves the world in his experience as a sort of memory. God saves all of value that has become concretely real in cosmic evolution and in every moment of the life of the cosmos. It is the idea that intrinsic value achieved in experience of each entity will never be nullified. The merest puff of existence has some significance for God. All experience in the cosmos will be retained as imperishable treasure "where neither moth nor rust corrupt and where thieves do not break through and steal". (Matt. 6:20) "The image" says Whitehead (1929 p. 525) " - and it is but an image - under which this operative growth of God's nature is best conceived, is that of a tender care that nothing is lost. He saves the world as it passes into the immediacy of his own life. It is the judgement of a tenderness which loses nothing that can be saved." God rejoices with the joy of the world and suffers in its travail. This image is part of the Judeo-Christian tradition. "The pathos of God" (as contrasted with the concept of the "impassibility" of God) according to the Jewish biblical scholar Abraham Heschel, is the central idea of prophetic theology (Merkle 1985, p. 494).

When Jesus said not a sparrow falls to the ground without God knowing, was he portraying God as a counter of dead sparrows? Or did he mean that God was involved in the life of the sparrow such that even its experiences were of value to him? When the writer of Romans 8 speaks of the whole of creation groaning and suffering in travail as in the agony of child birth, he adds that God is not simply watching from afar as a producer of a play might watch the performance from the wings. God is in the drama feeling every feeling in ways that words cannot express. God is no more detached spectator of the ocean of feelings which is nature. God is the supreme synthesis of these feelings. Hence Hartshorne (1979 p. 60) says that "all life contributes to the living one who alone can appreciate life's every nuance. He experiences our experiences and that of all creatures. His feelings are feelings of all feelings." The chief

"novelty" of the New Testament says Hartshorne (1967 p. 104) "is that divine love ... is carried to the point of participation in creaturely suffering, symbolised by the Cross taken together with the doctrine of the Incarnation."

In this ecological concept of creativity there is an inside story to evolution in addition to the outside story which is the one science tends to concentrate on. Presumably God knows the inside story as direct experience. We cannot have the experience of even another person let alone that of a tiger or a sparrow or a dinosaur but we can participate in it imaginatively, as indeed we seek to do in the lives of our fellows. The world will then no longer be seen as a factory to provide for our every need, no matter at what cost to the creation. Its eventual worth is not its worth to us but the contribution it has made to something more enduring than any particular atom or sparrow or any species of plant or animal. The "final beauty" says Hartshorne (1970 p. 321) "is the beauty of holiness" - which I take to mean the enrichment of the life of God in God's consequent nature from all the creation.

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SALVATION FOR ELEPHANTS

Charles Birch

There are many oppressed groups in modern society. The Christian responsibility is to work for liberation of the oppressed. Yet there is one group which have caused little concern amongst Christians who seem to have left the task of this particular liberation to secular movements. Non-human animals are an oppressed group. We treat them as if they were things to be used as we please rather than as beings with lives of their own to live. We oppress animals in factory farming when we deny such elementary freedoms as space to walk in or space even to stretch their limbs, in cruel animal experimentation, in the destruction of habitats - which is the main cause of present day extinction of whole populations, if not species. So oppressive are some forms of so-called development that species themselves are becoming extinct at an alarming rate. In the process there is much suffering and misery. A conservative estimate of the current rate of extinction of species is one thousand species a year. By the 1990's the figure could easily rise to ten thousand species a year (one species an hour). These and other instances of oppression of animals have been documented in great detail in numerous books and treatises especially in the last decade (See for example the review by Singer 1985). Yet the churches remain largely unmoved by this particular holocaust.

There are two main reasons for this serious neglect. One is the fear that concern for the plight of animals would detract from concern to relieve oppression in human lives. One billion people live in poverty. Some 40,000 die each day from hunger and related causes. Countless others live under political oppression that removes most human freedom from their lives. We don't seem to be doing much of a job in redressing the human plight, why add to that another gigantic problem for our concern? The question indicates the narrow horizon of our concern. Is our one and only objective healthy and free people and if so do we really believe we can achieve that without concern for the rest of the living world? This is not a case of either/or but both/and. There is another objective with a wider horizon - healthy (whole people in a healthy (whole) environment with healthy relations to that environment, which necessarily includes other living creatures. By contrast the modern world has a lot of unhealthy people unable to fulfil their lives in an unhealthy environment in which little concern is given to the other living creatures that share the planet with us. In the long run we look after ourselves by looking after the environment and its inhabitants because they look after us. There is this empirical reason for being concerned about non-human lives. It is very often the main argument of conservationists. It is not sufficient.

A second reason why our concern for oppression does not include non-human animals is that we give them no more than this instrumental value. If we do decide to look after them it is only because they look after us. In other words we treat them as means and not ends in themselves. We see them as objects and not as subjects. It is to deny them any intrinsic value in themselves to themselves.

Animals as Ends as well as Means

Intrinsic value resides in the experiencing of value. Only feeling confers intrinsic value. We recognize intrinsic value in humans because they are experiencing entities. They are not simply objects but subjects. They are not simply means but ends in themselves. My experiences are the most real thing about me. They are of value to me. Why the tremendous urge to live, even in the face of enormous suffering? We want to live. The fundamental urge to live is what life is. The Christian goes further and affirms that each human life is not only of value to the one who experiences that life but also to God. Intrinsic value means value in itself for the creature who experiences value and to God who experiences all value.

The urge to live is also a feature of non-human animal life. Perhaps it is the most central feature of life. No one can have my experiences which I value and I cannot experience another's experiences. Nevertheless I attribute experience to them. There is just as much reason to recognize experience and feelings of joy and suffering in chimpanzees and dogs and cats, and why not also frogs and snakes, as there is to recognize experience in other humans besides myself. Where to draw the line? Most people are willing to grant that their pets experience joy and suffering. Responsible owners of pets do their best to enhance the quality of life of their pets. But why draw the line with those animals we know best? Bird lovers include them as sensate creatures. Wherever we find a nervous system we may suppose there is something akin to what we call feeling. The intensity of feeling and therefore the degree of richness of experience of life may well be related to the complexity of the nervous system. That would put humans at the top and jellyfish low down. There is neurophysiological evidence to support these ideas. For example, the anti-anxiety agents benzodiazepines have a similar effect on non-human animals as on humans. Furthermore, sensory receptors for these chemicals have been found in all vertebrates except the cartilaginous fishes such as sharks. This would suggest that a wide range of vertebrates may experience some sort of suffering akin to anxiety in humans. A wide variety of vertebrates also are known to have "reward circuits" in their brains. These are pathways of nerves involved in feelings of pleasure given by a reward. But why limit experience to those creatures that have a nervous system? Why draw the line there? As will be indicated later process theology argues that no line is to be drawn at all as we go down the hierarchy of natural entities.

The Need for a Metaphysical Foundation for a Life-centred Ethic

Whether or not we regard animals as subjects with feelings akin to our own depends also upon our general vision of the world. Therefore, how we treat them will depend upon our metaphysic and our theological stance. It is crucial that ethics flow from a theological and philosophical view about life. This case has been strongly made by Armstrong-Buck (1986) for a life-centred ethic based on process theology and process philosophy. A materialistic view of life is unlikely to sustain a deeply ethical concern for all life. An anthropomorphic view of life often fails to sustain any deep concern for non-human life. Christians, in particular, have a clear cut responsibility to develop, promote and act upon a non-anthropocentric or life-centred ethical concern. I believe it is the

same to call this a theo-centric ethic because I believe that God is concerned about all life and not only human life. If human life in its intrinsic value is of value to God then it follows that wherever there is intrinsic value there is value to God.

The intrinsic value of a life is the richness of experience of that life. The appropriate attitude to life is respect. "Behold the lilies of the field" is precisely not saying "look at those lilies". The word behold implies a respect, a kind of tenderness which suggests that living things have a livingness akin to ours and an intrinsic value to themselves and to God. To behold means to stand amongst things with a kind of reverence for life which does not walk through the world of non-self with arrogance and unconcern. To behold implies a relationship of the creature to others and to God. It is to respect that relationship. When we break that relationship of integrity we do evil.

The Sixth Assembly of the WCC in Vancouver in 1985 called for a programme on Justice, Peace and the Integrity of Creation. The phrase Integrity of Creation was not spelled out. It might be just abstract enough to lose the point it seeks to emphasize. If it is to be saved it needs be given precise meaning. McDaniel (this consultation) and I propose that it refer to the recognition of the integrity of the intrinsic value of every living creature and the maintenance of the integrity of the relations of each creature to its environment. In other words it calls us to respect the life of kangaroos and elephants and the relations they have with their environment so as to enhance their lives and their instrumental worth to other creatures dependent upon them.

A great deal of human activity today is destructive of the life and relations of the non-human creation. Restoration is the task before us. The appropriate word for restoration of a broken relationship is salvation. Salvation is an ecological word because it is about restoring a right relationship which has been corrupted. After I had addressed the Fifth Assembly of the WCC in Nairobi in 1975 - on these and related matters - the conference newspaper had as its headline the next day: "Salvation for Elephants". That was appropriate. I find a similar evaluation in the Zen teaching which says "we save all things by including them". In an address on this subject Joseph Sittler quoted Saint Thomas "gratia non tollet naturam, sed perficit" - "Grace does not destroy nature but perfects it". That could be an appropriate motto for the programme of the World Council of Churches on "the Integrity of Creation".

In the Western World Christian churches have not been in the forefront of movements to promote concern for non-humans. There has been a tendency instead to see nature as none other than the stage on which the drama of human life is performed. Non-human creatures are merely props, having no value other than their value to us, intrinsic value resides in humans alone. This view has often been taken as biblical. It is not. In the Genesis account of nature God finds goodness in things before, and quite apart from the creation of Adam. Jesus expressed the divine concern for the sparrows, even the grasses of the field. If a man is worth many sparrows then a sparrow's worth is not zero.

Theologians as well as the churches have been slow to appreciate this. Notable exceptions have been process theologians and philosophers such as John Cobb, Charles Hartshorne, David Griffin and Jay McDaniel. Joseph

Sittler's address "Called to Unity" to the Third Assembly of the World Council of Churches in New Delhi in 1961 was notable for putting Christian unity in the larger setting of the value of nature. But it was largely ignored. Moltmann (1985, p. 31) promotes a view similar to that of process theology when he says "if the Christian theology wants to find the wisdom in dealing with creation which accords with belief in creation, it must free that belief from the modern anthropocentric view of the world". Likewise Gustafson (1984) affirms that the universe does not exist for the sake of human beings and God does not order it solely for us. He too widens the ethical context from the human individual to human communities and then to all sentient life. "Humankind is not the exclusive or ultimate centre of value in creation" says Gustafson (1984, p. 284) "Our capacities enable us to participate in the cultivation and sustenance of many values that are proper to ourselves, and we rightly value things in relation to our proper interests. But our interdependence qualifies our tendencies to anthropocentrism. We can be sure that if many aspects of the natural world could speak and claim rights they would say that the activities of many are frequently detrimental to them and their world." And on page 307 he says "I have argued that in our culture there has been a dominant presumption that all things exist for the sake of man, and that this has been backed by Christian theology as well as other beliefs. On the basis of this presumption all that is "below" man can be put to the service of man; it can be used for human ends regardless of the consequences for other aspects of life in the world. What is good for human beings has determined the evaluation of all other things. This has provided a general rank ordering of values ... Ethics from a theocentric perspective raises a serious question about this traditional presumption."

Toward a Christian Life-centred Ethic

To the question who is my neighbour? the proposition here is - all that participates in life. The needs of neighbour stretch beyond human needs as does the reach of love.

A central question is posed to traditional western ethics. What values should we seek to maximise in ethical behaviour? "Our task" says Cobb (1973, p. 312) "is to decide which general statement, from among several alternatives is correct." He proposes the following possibilities:

i So act as to maximise value for yourself in the present.

ii So act as to maximise value for yourself in the rest of your life.

iii So act as to maximise value for all men for the indefinite future.

iv So act as to maximise value in general.

The first is hardly to be viewed as an ethical principle at all. It says - eat, drink and be merry for tomorrow we die. The second principle is a maxim of selfish prudence. The third is the utilitarian principle of the greatest good for the greatest number of people. But why limit action to human value? This could be a valid ethical principle only if sub-human entities had no intrinsic value. A central argument of this essay is that intrinsic value is not limited to human beings. Man is not the only pebble on the cosmic beach. Therefore, only the fourth principle is sufficiently encompassing to be acceptable.

The recognition that the non-human animal is an end in itself and not merely a means to human ends explodes the assumption of traditional ethics. What is needed is a new life-centred ethic which recognizes in every animal as well as human, both ends and means. Conservation movements rest on insecure foundations as long as they do not go beyond instrumental ethics for their justification. There are four sorts of instrumental ethics usually invoked by conservationists. There is the "silo argument", for maintaining the existence of all those organisms useful to us, the "laboratory" argument for maintaining those organisms needed for experimental studies, the "gymnasium" argument of nature for leisure and the "cathedral" argument of nature for aesthetic pleasure. All these may well be valid arguments. However, when conservationists try to oppose polluters and developers solely with pragmatic arguments about the value to human welfare of, for example, "gene pools" in rain forests, they habe been manoeuvered into fighting on the same ground as their opponents. Their pragmatic arguments for the long term of species will be weighed against pragmatic arguments for the immediate needs of some humanbeings. If a judge rules that the arguments of the developers are more compelling and that a flood control dam willprovide more tangible benefits to humanity than will an endangered species, to whom will the conservationists appeal? To some extent the argument for preservation of whales has reached this point. Most of the products derived from whales can now be produced from other sources just as well and in any case the most economic use of whales, so some have argued, would be to harvest the lot now and thus circumvent the necessity of building new fleets to deal with successively smaller harvests year after year. What then will save the whales? We are left with an appeal to the intrinsic value of whales to themselves and to God.

The central principle of a life-centred ethic is that we deal with living organisms appropriately when we rightly balance their intrinsic value and their instrumental worth. When the state of Rwanda decided that land on which elephants lived was too valuable for elephants and was needed for the cultivation of food for humans, they did not kill the elephants as pests. They airlifted them by helicopter to a reserve in a neighbouring state. Their action suggests that, despite their recognition of elephants as pests, they also recognized that elephants had intrinsic value and had a right to live.

So far so good. But then comes the rub. How is one to balance intrinsic value and instrumental value? Up to now ethics has not faced up to this issue. We have no rules to go by. Albert Schweitzer's "reverence for life" and other "egalitarian" ethics, which rate all forms of life of equal value, are not practical guides. Such as ethic could hardly applaud the successful campaign of the World Health Organization to eradicate the Vaccinia virus that causes smallpox or the present campaign to eradicate malaria carrying mosquitoes. A human being is worth more than one mosquito. I would be prepared to lengthen the odds to an infinite number of Anopheline mosquitoes. But how to take into the account the need for land for food for humans and also for elephants when there may not be enough for both? Is the elephant to count for zero in that equation?

Birch and Cobb (1981) have suggested a criterion for assessing the relative intrinsic value of different creatures and that is by their richness of experience. The difficulty of course is that we have not experience of even another person's richness of experience, let alone

that of an elephant or a kangaroo. It is reasonable to suppose that the inner experience of an animal bears some relation to the complexity of its nervours system. It would thenfollow that chimpanzees and whales have more intrinsic value than worms and mosquitoes. In other words it is reasonable to posit a hierarchy of intrinsic value. In a sense we already operate by some such assessment intuitively when we are more concerned about the death of a monkey in space flights than about the death of fruit flies in such experiments. We need to be more conscious of what should be involved in such assessments. We have not yet begun to rethink the basic theories of the economic world so as to incorporate our intuitions.

If we adopt the principle of seeking to maximise all value (not just human value) for all time (not just our lifetime) we are extending the utilitarian principle as it is usually stated. It is true that Betham and Mill, for example, believed that animals were subjects and that it was inconsistent to exclude them from ethical consideration. But they did not deal with the questions this raises for the ultilitarian system. On the other hand Singer (1976, 1985) has consistently argued for a utilitarian ethic that includes all animal life. He does not base his ethic on relative richness of experience of different creatures but on capacity to suffer. The ethical task is to reduce unnecessary suffering in the world. He carries this to the extent of strongly advocating vegetarianism for all on the grounds that eating animals is one of the greatest causes of animal suffering in the world today. Laudable as is Singer's objective it is not enough. Even if animals in factory-farms were anaesthetized, and thus could not suffer, there would still be reason to protest at depriving them of their natural fulfilments. The responsible owner of a cat or dog is not only unhappy when the pet suffers pain but seeks to enhance its general enjoyment of life.

Richness of experience is more than reduced suffering. It has a positive component as well. We should seek to be neighbour to non-human animals analogously to the way in which we seek to be neighbour to our human associates. It is to succour those who fall by the wayside and to try and remove the cause of the suffering. And to be neighbour is also to provide a room in the inn. To suit the convenience of owners of pets who cannot take pets on holidays with them and prefer a new pet on return a company called "Disposapup Ltd." rears and supplies puppies, takes them back and kills them at holiday time, and supplies replacements on demand. This is to be condemned as immoral, even if the pets are disposed of without suffering. It is immoral to deliberately deprive the puppies of possible pleasure and the fulfilment of their canine potentialities. To live life and to live it abundantly need not be just a human aspiration for humans. It can be a human aspiration for our non-human neighbours as well.

I have confined this essay to animals. But what about all the rest of the creation? An evolutionary perspective leads to the notion of a continuity between all levels of evolutionary history. There are no sharp breaks between the animate and the inanimate. Process theology argues for a continuity in nature of all natural entities from the electron type to humans. All natural entities are seen as subjects with some degree of freedom and some degree of sentience or feeling, though the meaning of these words is very different at the level of the human compared to that of an electron. So intrinsic value is extended to all natural entities. Since intrinsic value at the level of electrons and atoms must be so slight, from all practical points of view and therefore ethical purposes,

it can be ignored. The same is true of "aggregates" of natural entities such as rocks. The intrinsic value of a rock is only the sum of the intrinsic value of the molecules, atoms, electrons and so on that compose it. Entities of these types may reasonably be treated as means.

A living cell is more than an aggregate. Unlike a stone it has an inherent unity and its own internal relations with its environment. The value of the created universe to God must have become intrinsically greater as evolution proceeded from electrons to atoms to molecules to cells. A world of cells is a more valuable world than a world without cells. Nevertheless, it is a rare circumstance when the perspective of cells as such would loom large in ethical consideration. Their primary value is instrumental. A present exception is the furore concerning the fertilized human ovum, which is a single cell, to which official Roman Catholic doctrine ascribes the intrinsic value of a human being. From the perspective of process theology the fertilized ovum has not the experience, nor can it have, that of a mature human being. It has the potentiality of eventually becoming a creature that may have that experience, but as such its intrinsic value must be very much less than that of a mature human being. There is a stage of development of the foetus when for the first time a nervous system can be recognized. So it is possible to posit that unified foetal experience emerges somewhere late in the development of the nervous system. The fertilized ovum can be recognized as having some intrinsic value and the developing foetus as having greater value but less than that of the newly born infant. To apply to the killing of a foetus the same language that is used for the killing of a human person is an obstacle to reasonable reflection on this contentious subject.

Plants are not mere aggregates of cells. They are complex societies of many different sorts of cells. Nevertheless the intrinsic value of the plant is probably no more than the intrinsic value of the cells that compose it. Plants have no nervous system that could give them unitary feeling, though they have chemical coordinating systems. Plants are appropriately treated primarily as means and of course critically important ones for life on earth.

Some Ethical Guidelines for Pratical Problems in the Treatment of Animals

The guiding principle proposed in this essay is that we are morally obliged to reduce suffering and to enhance the quality of life of animals that share the earth with us. The greater obligation is entailed toward those creatures with more significant experience. This would entail detailed consideration of many of the practices which go largely unquestioned in Western society. Some of these are as follows:

Animal Experimentation

Today over one hundred million animals are being used in research laboratories all over the world. Some 85 per cent are rats and mice. Frogs, hamsters, guinea pigs, rabbits, pigeons, dogs, cats, pigs and primates constitute almost all the rest. About 5 per cent are used for teaching purposes, another 5 per cent for diagnosis of disease, 20 per cent for production of biological substances ("biologicals") and toxicity testing, 30 per cent in drug development and testing and 40 per cent for other pure and applied research. A Dutch survey indicates that 50 per cent of all animal experimentation involves a risk of appreciable

discomfort to the animals. (Tannenbaum and Rowan 1985) recognize six different ethical stances toward experimentation with animals ranging from total acceptance to total rejection, with a variety of positions in between. More has been published supporting the complete rejection position than on all the other views. The issues are quite complex. However, a minimal requirement is surely that animal experimentation should not be undertaken without counting the cost to the animals involved. The cost will usually be some form of suffering. Or it may be, as for example in the case of chimpanzees (now classified as an endangered species), the possible annihilation of the species altogether. In all cases experimentation should not be done unless absolute necessity can be demonstrated. and all alternative possibilities have been excluded after serious consideration.

The Use of Animals for Food

Again there is a variety of ethical stances on this subject ranging from no objection (e.g. farmers) to total rejection (e.g. Regan 1983). A minimal stance again is surely that to treat animals as renewable resources having value only to human interests is immoral. Farm animals should be treated with the respect they are due. It is wrong to maintain animals that are used for food in a manner that causes them discomfort and denies them the opportunity to live in conditions that are reasonably natural to them. This consideration renders the cage system for hens as immoral. Switzerland has already passed legislation to phase out this system. The standard method of rearing calves in the USA for the production of luxury veal is extremely cruel and has already been declared illegal in the state of Victoria in Australia.

The advocacy of increasing meat consumption in the rich world needs to be questioned on a number of grounds. It multiplies the cruelty of crowded yards, crowded transports and abbatoirs. There are good health reasons now for increasing the component of vegetables in the human diet and reducing that of red meat in particular. Thirdly, meat production is in many instances a wasteful way of producing food. As world population increases more and more people will, of necessity, have less meat and more vegetables in their diet. We should anticipate this change. There are good arguments for vegetarianism. It reduces one major cause of animal suffering.

A point people do not usually notice is that all animals in the Genesis creation story are vegetarian. The animals in the story live on grass and the humans live on nuts and fruit. It is only when humans have become evil that they become enemies of other animals and take living animals for food. In the book of Isaiah the day is forseen when paradise is regained, and everyone not only goes back to a non-meat diet, but the friendliest relations subsist between all species. The wolf shall dwell with the lamb, the leopard shall lie down with the kid and a little child shall lead them. In the book of Job God puts questions to Job that show up human egotism and indicate that the non-human creation is not there simply for our use. It has other values. Who has made it rain on a land where no man is to cause the tender grass to spring forth? Who has provided food for the wild ass and the wild ox that you can't domesticate or put to work? Psalm 104 even says that God made Leviathan as a pet, so that he could play with him! God made things for their own sake and for his sake.

The Morality of Zoos, Circuses and Gladiators

Is it not wrong to confine animals for display and entertainment unless the conditions are virtually natural for the animals concerned? The day of wire cages and cement pits should have passed, but it hasn't. What might have been claimed as an educational role of zoos in the past has been superceded by superb wild life films such as those produced by David Attenborough for the BBC. Zoos have a role for saving threatened species but perhaps little else. There is no role for performing animals in circuses in a life-centred ethic. The same goes for shows of fighting cocks and bull-fights which are legal entertainment in too many countries still. The emotions they pander to and the morality they condone are akin to those that led people to find entertainment in watching Christians being thrown to lions.

The task of working out a life-centred ethic for our time depends upon rediscovering a continuity between humanity and the rest of nature. At the same time we need to emphasize the distinctiveness of the human. The Christian churches can learn from Eastern religions which have been much less ready to recognize sharp differences between humanity and the rest of nature which is reflected in their ethical stance towards other living creatures. The ethical task before us is to liberate all life from constraints or oppression, human insensibility and domination, in whatever form they take.

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GOD AND PELICANS

Dr Jay McDaniel

"If God watches the sparrow fall, God must do so from a very great distance" (140). This observation is made by Holmes Rolston, a North American environmental philosopher and naturalist, as he assesses the relation between God and individual animals in light of evolution. Rolston is a Christian who wrestles with the fact that so many sentient creatures die violent and painful deaths before reaching maturity. How, he asks, is God related to such creatures and their suffering? Does God share in their suffering, or does God watch from a distance? Is God empathetic, or cool and distant?

As a case in point, Rolston considers the plight of newborn white pelicans. Female pelicans generally lay two eggs, the second two days after the first. Because few parents can raise two young, "the earlier hatched chick, more aggressive in grabbing food from its parent's pouch, becomes progressively larger, attacking the smaller sibling" (138). The second chick - whom we will imagine as male - is often driven out of his nest by the first chick. His return to the nest is prevented by his parents, lest they accidentally adopt an alien chick and waste precious parental energy. Nine times out of ten, he thrashes about in search of food, and then dies of abuse or starvation.

Rolston points out that this mode of parenting has been very successful from an evolutionary perspective. It has led to the survival of generations of white pelicans for almost thirty million years. The second chick is an insurance policy in case the first chick runs into trouble. He is a "backup chick". Neither the parents nor the first chick should be condemned for their behaviour. Both are genetically conditioned to behave as they do, and they have little if any capacity for moral responsibility in relation to the second chick. The treatment of the hapless chick is a "subroutine in a larger evolutionary process", a means to the end of species continuation (Rolston 140).

From the backup chick's own perspective, however, this evolutionary analysis misses something. The analysis presents him from the outside rather than the inside. Viewed externally, he is indeed a cog in the evolutionary process: a mere backup. But from the inside, in terms of his own point of view, he is a sentient creature who suffers pain and enjoys pleasure, and who desires his own well-being, however trivial that well-being might be compared to our standards. Of course, the second chick probably does not "view himself" in the sense of objectifying himself as an "I" or "me". Such self-objectification involves conceptual and linguistic skills he undoubtedly lacks, as do human infants. His experience is pre-reflective and, like our own in sleep, pre-conscious. But his behaviour certainly suggests (a) that at least in a pre-conscious way he is aware of his own body and the surrounding environment, which is to say that he is sentient, and (b) that he has needs of his own, including the need to survive with some degree of satisfaction relative to the situation at hand. As a creature with sentience and with subjective needs, he is more than an object in the evolutionary process. Like a newborn human infant who has not yet acquired language, but who nevertheless has a perspective of his or her own, the second chick is subject for himself.

As cognitive ethologists such as Donald Griffin point out, the recognition of sentience and internal needs in non-human organisms with nervous systems is not mere human projection. It is a sound inference from biological evidence. Analysis shows that birds such as pelicans have the nervous systems and the biochemical endowments to enjoy pleasure, to suffer pain, and to have interests in avoiding pain and preferring pleasure. Moreover, evolution itself suggests a continuity between human mentality and non-human psychic life. As Bernard Rollin explains, "given that evolutionary theory is at the cornerstone of all modern biology, and evolutionary theory postulates continuity of all life", it is unlikely "that a creature that has a nervous system displaying biochemical processes that in us regulate consciousness, or that withdraws from the same noxious stimuli as we do, or from other dangers, and that has sense organs, does not enjoy a mental life" (41). It is most likely that the creature does have some kind of mental life.

And here lies the problem, at least for the chick. Because the chick is the second or "backup" chick, his yearning for satisfaction is frustrated and his life ends in pain. While the chick's brief existence may serve larger evolutionary ends, this fact is of no consolation to him. From his perspective, his life matters for its own sake. He is an end in himself.

How about from God's perspective? From the divine point of view, does a pelican chick matter for his own sake? Does God envision him as an end in himself, or merely as a means to other ends? This is the question that Rolston raises, and one that any Christian interested in the relation between God and nature must address. It is the question which serves as the point of departure, and continual point of reference, for this essay. My purpose is to develop and articulate a way of thinking about God that might serve a theology of nature, which itself makes credible God's love for nature, including backup pelican chicks.

1. Beginning a Theology of Nature with the Assumption of Divine Love

Rolston's suggestion that God must watch falling sparrows "from a very great distance" suggests that for God individual organisms - at least non-human organisms - are not ends in themselves. God need not watch them from a close perspective, much less empathize with them, because they are parts of a much bigger picture: an unfolding and open-ended evolutionary process. The implication is that individual organisms are, after all, too small to be noticed, and cared for, by God.

But how large is a God for whom some individual organisms are too small? How much care and concern does this God have? How much heart? We know from human experience that love involves care for fellow subjects - at least fellow human subjects - as ends in themselves and not just means to other ends. And we also know those who say they love humankind in general, but who cannot or do not love humans in particular, lack that tenderness and concern for individuals on their own terms, and for their own sakes, which is essential to the fullness of love. Such people see the big picture at the expense of the parts, the forests at the expense of the trees. Similarly, would not a God who is so struck by the vastness of his creation that he cannot attend to the concerns of particular creatures lack heart? Would not his love, too, be lacking? I believe so.

In this essay I begin with the assumption, which I take to be essential to Christianity, that there is a divine Consciousness who is immanent within, though also transcendent of, the universe, and whose nature is unlimited love. By unlimited love I mean two things. I mean love (a) that is universal in scope, inclusive of all creatures with sentience and needs, and (b) that is infinitely tender, desirous of the well-being of each sentient being for its own sake, and cognizant of each being as an end in itself. To imagine such love as characteristic of God is by no means to limit God. What makes God "God", and hence so much larger than we, is that God's love is so much richer than our own. Limitless love is both universal and particularized. It is unsurpassably broad and, with respect to each creature, unsurpassably deep.

To begin a theology of nature with the assumption that God is limitelessly loving is to begin in a relatively unique way. Many theologies of nature start with the assumption that God is the Creator of nature, and then ask how, in light of this fact, God might also be loving. Their assumption is that a Christian understanding of nature must begin with a doctrine of divine creativity. By contrast, I begin with the assumption that God is limitlessly loving and then ask how, in light of this fact, God might also be creative. My approach begins, not with the idea that nature is utterly dependent on God, but rather with the idea that nature, whether utterly dependent or partially independent, is inexhaustibly loved by God. If power is understood as the power to create out of nothing, I being not with divine power but rather with divine pathos (Heschel, Prophets 24).

I begin with the idea of divine love because I think this starting point best complements Christian spirituality at its deepest level. At its deepest, Christian worship is rooted, not in fear of divine power or in awe of divine majesty, important as such dispositions might be, but rather in appreciation of, and responsiveness to, divine love. To love God is to respect God, to care for God, to appreciate God, to be grateful to God, to empathize with God, and to want to follow God. That image of God which best elicits respect, care, appreciation, gratitude, empathy, and faithfulness is the image of God as all-loving. Other dispositions can enter into and enrich our piety - such as fear and awe - but these have their meaning only in the context of divine love. They should be supplementary rather than central to the heart of Christian piety and prayer, which is love for the God who loves.

To assume that God is all-loving is a matter of faith. As Christians we do not know with absolute certainty that the divine Mind is all-loving, but we feel and hope that God is like this, and we live by this hope. Another word for hope is "trust", and still another, "faith". We have faith in a God whom we trust is all-loving. This faith is indebted to Jesus, at least as he was interpreted by various gospel writers and by subsequent generations of Christians. It is nourished by the idea - transmitted through creed, code, and cult - that Jesus was, or sought to be, fully loving, and that to the degree he realized this ideal, he revealed God's nature. If we take the love that Jesus strove to embody: if we imaginatively multiply its breadth and depth beyond limit; and if we then imagine that breadth and depth as gathered into the unity of a single, universal Consciousness; we have an image of God. The divine mind, we dare to believe, is Jesus-like.

Assuming that the divine Mind is Jesus-like, we cannot rest content with Rolston's suggestion that God watches falling sparrows and flailing pelicans "from a very great distance". Such a God would lack depth. Rather we must try to understand how God's unlimited love extends even to the smallest of creatures, even to the "least of these", even to the second pelican. In developing our theologies of nature, then, we have three tasks.

Three Tasks for a Christian Theology of Nature

First, we must find some way of imagining God as inexhaustibly large-hearted: that is, as so completely empathetic that God is inside the skin of each sparrow, each pelican, and each sentient creature, suffering its sufferings and enjoying its joys along with it. To do this we can follow the lead of process theologians, Jurgen Moltmann, and Arthur Peacocke, all of whom emphasize divine suffering in developing theologies of nature. We can agreee with Peacocke, who insists that "any serious consideration of the creative action of God as dynamic and evolutionary is inexorably led to face the death, pain, and suffering in that process and so come to an understanding of God as the suffering Creator" (Creation 200).

Second, inasmuch as we deem God a creator, we must find a way of imagining God's creativity such that, even if God is responsible for the fact that there is a world as we know it, God is not indictable for worldly suffering. Here we can follow the lead of process theologians and recognize (a) that God's power is, and always has been, persuasive or invitational rather than coercive, (b) that the natural world has creativity that is independent of God's creativity, and (c) that, by virtue of nature's creativity, patterns of behaviour can emerge in the evolutionary process that even God could not and cannot prevent if there is to be life at all. To recognize that there are limits to divine power is to diverge from the dominant tradition of classical Christian theology. It is to say that God is all-loving, but not all-powerful as the latter has been traditionally understood. But perhaps it is to take even more seriously than the dominant tradition the revelatory implications of the Cross of Jesus. It is to see that divine power itself is, and always has been, creatively vulnerable.

Third, we must find a way of articulating our hope that, while the suffering of creatures may not be preventable by God, this suffering is nevertheless redeemable by God. This is to hope that even though certain crosses are unavoidable, Resurrection can occur.

In subsequent sections of this essay, I try to develop a way of thinking about God in relation to nature which shows that God suffers with each particular sentient being; that God's creative activity is the most influential power in the universe, though nonetheless subject to certain limitations; and that though God's power is subject to limitation, it is nevertheless powerful enough to redeem. Before proceeding, however, it is important to identify the two resources which will serve as my primary and indispensable resources.

Two Resources for a Theology of Nature:
Arthur Peacocke and Process Theology

A Christian theology of nature must involve more than a model of God. It

must have a clear image of nature, with "nature" defined as a totality of finite existents which have existed in the past, which do exist in the present, and which may exist in the future. Today, of course, any theological understanding of nature must emerge out of an encounter with the methods and insights of the natural sciences. This is the case not only because science teaches us much about nature, but because in a contemporary setting science much more than theology shapes human understandings of nature. In order to be credible, a theology of nature must be scientifically-informed.

It is fortunate that today there that those within the Christian community who are doing excellent work in developing scientifically-informed understandings of nature. Among those in the United States are process thinkers such as Ian Barbour, John B. Cobb, Jr., David Ray Griffin, and Charles Hartshorne plus, from Australia, Charles Birch. A counterpart and alternative to the work of process theologians is that of Arthur Peacocke from England, who has developed an impressive, independent theology of nature in its own right.

In what follows I will develop my own model of the divine reality by juxtaposing the process understanding of God with Peacocke's model. Let me begin, then, by highlighting three affirmations concerning 'the nature of nature' that process theologians and Peacocke seem to share, albeit with different emphases and from different points of view. For it is nature as thus conceived into which the pelican finds itself thrown, and it is nature as thus conceived which must be the subject of God's love.

First, both Peacocke and process theologians affirm that human life in its psychological as well as its physical dimensions is an expression of, rather than an exception to, nature. Peacocke qualifies this a bit by suggesting that human self-consciousness may protrude "beyond the boundary of nature" (New Biology 96). But his intention is not, I believe, to advocate a dualistic ontology in which the human mind is a substance different in kind from matter (Creation 122-125). Along with process thinkers, Peacocke eschews a dualistic ontology which posits two distinct realms of being: one natural and the other supernatural. For both, the visible worlds of space-time, and the invisible worlds of thought and feeling, are part of a single whole called "nature" or, to use the Jewish, Christian, and Muslim term, "creation".

Second, both insist that nature (including human life) is dynamic and evolutionary rather than static and unchanging. Both stress that the cosmos as we know it evolved to its present state, and that is evolving even now into an as yet undetermined future. Both are open to the possibility that this cosmic epoch (beginning with the big-bang ten to twenty billion years ago and ending either with a big chill or a heat death) may itself be but one of a beginningless and endless series of cosmic epochs. Both see life on earth as a unique and distinctive part of this larger evolutionary process.

Third, both affirm that nature - matter itself - is in certain ways creative. This is to say that in various ways it is imbued with potentialities, the authorizations of which cannot be precisely predicted in advance, and that, at the biological level at least, evolution occurs as the result of chance (to be defined in the next section) as well as law. At the subatomic level, Peacocke and process theologians both affirm the indeterminacy implied by quantum mechanics. At the molecular

level and higher, both affirm the creativity of what the physical chemist Ilya Prigogine calls "dissipative structures". At the human level, both see the creativity of matter as taking the form of what we call freedom (Peacocke, Creation 57, 97-100).

In what follows, let us assume with Peacocke and process theologians that nature is indeed something that includes rather than excludes human life, that it is evolutionary and open-ended, and that matter itself is creative, unfolding in terms of chance as well as law. And let us then ask, in light of this way of thinking about nature, how God might be envisioned as loving nature both in its vastness and its particularity.

II. The Receptivity of God

Here, too, Peacocke and process theologies can help. Both endorse the view that the universe is "in" God, even though God is more than, and not exhausted by, the universe. A word often used to name this perspective is panentheism, which means, literally, "all in God". It is from panentheistic perspectives, I believe, that Christians have most to learn in developing images of divine love for nature. However, there are two types of panentheism - emanationist and dialogical - and Christians must choose between them. Both types can be explained by using an analogy developed by Peacocke and by process theologians which draws upon our own experience of, and relation to, our bodies. The analogy is that God is to the world as a mind (with it mental states) is to its body. The world, according to the analogy, is God's body.

Emanationist panentheism sees God's body as a direct expression of God's own being, somewhat like photons emitted from the sun are expressions of the sun's own substance. To look at the God-universe relation this way is to believe (a) that the "stuff" of which the world consists is an expression of the very "stuff" which constitutes God's own existence, and (b) the history of the universe, in generality and detail, is directly expressive of the will or purposes of God. By "stuff" in this context I mean the creativity inherent in matter, by which evolution itself is propelled. Emanationist panentheists view nature's creativity as God's creativity.

Dialogical panentheism, which is advocated by process theologians, and which to my mind is more biblical, sees the world as having some degree of creative independence from God, somewhat as our own bodies, even though part of who and what we are, have some degree of independence from us. In Biblical terms this independence belongs to the chaos from which, in Genesis, God called the world into existence, a chaos which, from the point of view of the biblical authors, probably existed along with God at the outset of creation (Peacocke Creation 82). To look at the God-world relation in light of a dialogical panentheism is to believe that (a) the "stuff" of which the world consists is not identical to the "stuff" of which God consists, and (b) that the history of the universe, in generality and detail, is not always expressive of the will or purposes of God, though it may be. Whereas in emanationist panentheism there is ultimately only one creative power, namely God, in dialogical panentheism there are many creative powers, of which God is the primordial but not exclusive instance.

Dialogical perspectives allow for a recognition of the receptivity of

God. From the vantage point of lived experience, we are related to our bodies in at least two ways. We are agents with respect to our bodies, which is to say that we act in and through our bodies. And we are patients with respect to our bodies, which is to say that we feel the presence of our bodies, and in so doing are affected by our bodies. An emanationist perspective can well offer an image of divine agency, because it equates the world's agencies with God's agency. But it has few resources to develop divine patience, for to receive something, that something must be "other" than oneself, with integrity of its own. In emanationist panentheism, the world is not other than God. God is not a patient.

In dialogical panentheism, on the other hand, the world is other than God even as it is in God. God is a patient who receives the world. Consider the fact that from a phenomenological perspective our bodies are in our experience: that is, in our bodily awareness in such an intimate way that we identify with them and speak of them as our own. Similarly, so the dialogical panentheist proposes, worldly creatures are in God's experience, in God's awareness as subjects with which God identifies as God's own. Just as, from a first-person point of view, what happens in and to our bodies happens in and to us, so the dialogical panentheist can say, what happens in and to the lives of creatures happens in and to God. The world is immanent within God.

The mind-body analogy helps us to understand how the world can have a life of its own even as it is immanent within God. Just as a foetus within a woman's body has a life of its own even though it is part of the woman, so the world has a life of its own even though it is part of God. Living cells in our bodies have sentience and creativity in their own right: creativity which, when functioning in coordinated fashion as organs and foetuses, can enrich our own psychic experience, but which, as we know from cancer and miscarriages, can diverge from our own psychic purposes. From a dialogical perspective worldly creatures are like cells in the body of a divine Psyche. They are other than God even as they are within God.

To say that the world is immanent within God even as other than God is to say that God suffers. For Christians, this is one aspect of the truth of the Cross. As Dorothee Soelle points out, it is an unspeakable shame that the truth of the Cross has often been understood most deeply by many who have been victimized by the Cross: that is, by Jews who for centuries have been wrongly identified as Christ-killers. In this context Soelle reminds us of Elie Wiesel's eye-witness account of the suffering child at Auschwitz.

> The SS hung two Jewish men and a boy before the assembled inhabitants of the camp. The men died quickly but the death struggle of the boy lasted half an hour. "Where is God? Where is he?" a man behind me asked. As the body, after a long time, was still in agony on the rope, I heard the man cry again. "Where is God now?" And I heard a voice within me answer, "Here he is - he is hanging here on this gallows..."(quoted in Soelle, 145).

From a dialogical panentheist perspective, Elie Wiesel is right. God was indeed in the boy, suffering with him, because he was in fact in God, as

are we all. This does not mean that the boy's suffering was in any way justified, or that the boy suffered less because God shared in his pain. It does mean that God suffered more than God might otherwise have suffered, that what happens in the world can increase or decrease the pain of God.

As Christians learn to repent of our insensitivity to Jews or to God, we might also learn to repent of our insensitivity to the rest of creation. I do not mean to imply that on a qualitative level the suffering of Jews, or any other humans for that matter, can be compared to that of non-human creatures. Nor do I mean to imply that I can fully comprehend the suffering of those who died in the Holocaust. I do mean to say that the suffering of an all-loving God need not be limited to humans. A God who suffers only with humans is too small. Our task is to recognize that there are countless crosses in our world, non-human as well as human, to which countless victims are involuntarily nailed, often by powers that have nothing to do with human agency. When as Christians we think of "natural evil", we must include the countless instances of undesired suffering - which are "evil" from the creaturely victim's perspective - which are in no way the consequence of human sin. We must remember that God suffers from these evils as well.

But how intimate is this divine suffering with human and non-human life? Here the mind-body analogy has limitations. A pregnant woman may feel the effects of whatever pain a foetus might feel, but she does not really feel the pain as the foetus feels the pain. A man may feel the effects of damage to cells in his body, but he does not feel that damage as the cells themselves feel it. Here, so process theologians suggest, the analogy must be imaginatively amplified. If we are to imagine the suffering of God who is limitlessly loving, we must imagine it as perfect empathy: an empathy which feels the feelings of worldly subjects as the subjects themselves feel those feelings.

Divine Suffering as Perfect Empathy: Perfect Empathy as Divine Knowledge

Three points need to be made about perfect empathy. First, it involves sympathetic understanding of the "inner perspective" of individual living beings. It does not watch creatures from afar, observing their behaviour as from a distance: it feels creatures from their own point of view, that is, from a point of view which overlaps and co-indwells their own perspective. As John Cobb argues, God can be conceived as both omnispatial and nonspatial, or "everywhere" and "nowhere" (God and the World 77-86). Inasmuch as God is omnispatial, God is "within" the bodies of embodied creatures, human and non-human, experiencing the world from their own spatiotemporal perspectives and, as perfectly empathetic, sharing in their psychic states. This means that as we humans watch a starving pelican chick, we are watching God. For God is actually there, in the chick, suffering with him. Even as worldly creatures are immanent within God, God is immanent within them.

To say that God is immanent within creatures is to say that God is present in their lives and experiences. This immanence can take one or both of two forms. God may be immanent as an agent, in some way guiding or directing creaturely activities, or God may be immanent as a patient, feeling creatures' feelings and experiencing along with them. In this essay I endorse both forms of immanence, proposing in the section that follows that God is immanent as an active lure, beckoning creatures

toward life and wholeness. At issue in discussing divine empathy, however, is the immanence of God as a patient. As a receptive subject, God takes the form of what the Jewish tradition sometimes calls the Shekinah, the indwelling presence of God in the world. As Soelle explains, "according to cabalistic teaching God does not forsake the suffering world", rather (and here she quotes Martin Buber), God "descends to the world, enters into it, into 'exile' dwells with the troubled, the suffering creatures in the midst of their uncleanness - desiring to redeem them (Soelle 145 - 146: Buber 101). As Shekinah, Soelle tells us, God is a fellow sufferer "hanging on the gallows at Auschwitz" (146).

The second point to make about perfect empathy - implied by Buber's suggestion that the divine Shekinah desires that creatures be redeemed - is that it includes a sense of lamentation and a yearning for things to be different. If God's empathy is anything like our own, albeit infinitely more sensitive and tender, then this empathy must be complemented by evaluation. When we empathize with another person who is suffering, we not only feel the feelings of the person, we also evaluate those feelings in light of what we take to be the best interests of the person at issue. If the person is suffering from a severe depression, we feel his or her feelings, and we do so in light of our own conviction that he or she would be "better off" if this state-of-mind were otherwise. Analogously, if we are to assume that God feels the feelings of suffering chicks, we must also imagine that God wishes that the "best interests" of the chick could be realized, whatever those best interests are.

It is possible, of course, that the best interests of a second pelican chick are to die of starvation for a greater, evolutionary cause. In this case God would feel the feelings of the suffering chick and be pleased! But this understanding of the chick's best interests are certainly alien to the chick's own point of view. From the chick's own perspective, his own "best interests" are to survive with some degree of satisfaction relative to the situation at hand. He does not choose this interest in surviving, as if he might have chosen otherwise. Rather he, like most living beings, has a natural will-to-live. Given the inescapability of this impulse, I would imagine that God would appeciate rather than reject the chick's own interests. God, too, must wish the satisfaction of the chick, and, in God's own way, be saddened rather than pleased. In the evaluative aspect of divine empathy, there must, indeed, be much lamentation.

The third point to make about perfect empathy is that it is one aspect - and perhaps an often neglected aspect - of divine knowledge. In its sympathy for the internal perspective of a creature on its own terms, and in its evaluation of that creature's conditions in light of its own best interest, God "knows" a creature. This is not knowing about the creature; it is knowing with the creature. It is a knowledge which is care. In Whitehead's words, God is a "fellow sufferer who <u>understands</u>" (497, emphasis mine).

This discussion of divine empathy raises an obvious set of questions. If much of life is lamentable, even to God, why are things not otherwise? If God is an agent who creates and sustains the world, why is there so much undesired pain? How, after all, does God act in the world?

III. The Agency of God

In a recent anthology of essays called God's Activity in the World: The Contemporary Problem, the editor, Owen Thomas, explains the importance of these questions. "At the heart of Christian faith", he says, "is the affirmation that God is present and active in the creation to carry out the divine purposes and to achieve the divine goal of fulfillment of all creatures"(1). And yet, as Thomas explains, "the development of modern science in the seventeenth and eighteenth centuries with its sole concern with natural causes and its ever-expanding interpretation of natural events led to fundamental doubts about the reality of divine activity in the world" (3). There has been a serious gap between liturgical proclamations that God acts in the world to fulfill all creatures and theological suggestions concerning how, after all, this activity occurs. Thomas' anthology shows that there are several possible contemporary responses to this lacuna.[1] In this essay I cannot survey all the approaches. Instead I will focus on the ways of thinking about divine agency developed by process thinkers and Peacocke, each of which draw upon the mind-body analogy.

Given the mind-body analogy, at least two types of agency are conceivable for God: unilateral or invitational. Unilateral agency is coercive or manipulative. It is agency that can infallibly effect its intentions to produce a desired state-of-affairs, because the agent is in complete control over the objects which must be influenced in order for that state-of-affairs to occur. We feel that we have unilateral control over our arms, for example, because when we internally choose to raise our arm, our arm rises as the apparently inevitable outcome of our intentions.

Invitational agency is persuasive rather than coercive, relational rather than unilateral. It is agency that cannot infallibly effect its intentions to produce a desired state-of-affairs, because the agent requires the cooperation, and perhaps the creative response, of the objects themselves in order for the desired state-of-affairs to occur. An obvious instance of this is illness. If I am ill, I have some power over my body - inasmuch as my attitudes might help in the healing process and inasmuch as I might take curative measures - but the cells in my body also have lives of their own. They may or may not respond to my intentions to heal.

In fact, even a conscious decision to raise an arm, despite possible feelings to the contrary, is an act of invitational agency. When we consciously decide to raise our arms, the cells in our arms must cooperate, and for some of us, they do not. Those with muscular dystrophy know this all too well; but even those without this disease know that, sometimes, simple bodily motions do not occur as we wish. At least with respect to conscious movements of our bodies, "unilateral agency" is actually invitational agency, the desired outcome of which has a high probability and likelihood of occuring. In deciding to raise our arms, we invite our arms to rise, and they usually rise.

Still, for the sake of discussion, let us for the moment assume that unilateral agency does exist. If the world is God's body, and if God thus acts in the world, what kind of agency does God exercise: unilateral or invitational?

In relation to human life, many Christians will say that God's agency is invitational. We speak of God's agency as a call to love God and to love others as we love ourselves. We presuppose that we are free to respond or not respond to this call, that we may sin. By virtue of our freedom, we assume that in the short run divine purposes are actually divine hopes. We take it as our task to fulfil these hopes, to do the will of God "on earth as it is in heaven", presuming we could in fact do otherwise. If we are panentheists, we are dialogical panentheists.

In relation to the rest of nature, however, we can adopt a different perspective. With respect to subatomic particles, atoms, molecules, living cells, multicelled organisms, planets, stars, and black holes, we can assume that God's agency is unilateral rather than invitational. Here we will tend to believe that whatever happens in nature is a result of God's will. Despite the biblical notion that even nature is fallen, we will assume that evolution bears full witness to divine purposes. Here, if we are panentheists, we adopt an emanationist perspective.

I believe that the latter way of thinking is inappropriate. If we are to make sense of the fact that God in divine empathy "wishes things were otherwise", we must recognize that God's agency with respect to non-human nature, too, is, and always has been, invitational rather than unilateral. This is to suggest that a dialogical panantheism obtains even with regard to non-human nature. In order to develop this perspective further, it is helpful first to look at the way Arthur Peacocke construes divine agency, and then turn to process theology.

Peacocke's Understanding of Divine Agency

Drawing from panentheism's mind-body analogy, Peacocke suggests that God acts in the world as a mind acts in and through its body. In using the analogy, he focuses on the agency that mental states have in expressing intentions and purposes through bodily activities (Intimations 74-75; Creation 133-138). Just as the meaning of a consciously initiated bodily action (raising an arm) must be determined by seeking the meaning or intention of the self that did the initiating, so the meaning of the "nexus of physical events which constitute the world" must be determined by seeking the intentions of God. Here, Peacocke seems to be adopting a modified emanationist perspective. He seems to be saying, not that the body of God expresses the "stuff" of God, but that indeed it infallibly expresses the intentions of God.

But qualifications are in order. Peacocke recognizes "that many individual events in our bodies, and many regular patterns of events, occur without any conscious control by the self" (Creation 137). He recognizes that, analogously, we see many events in nature which seem not to exemplify any specific purposes of God. Yet he implies that even these events are revelatory of general purposes of God. The mind-body analogy is still applicable, for it applies "both to those patterns of events in the world initiated by the purposes of God and to those many other individual events and some regular patterns of events which cannot be regarded as initiated by a specific purpose of God - even though they are what they are because God created them so" (Creation 138).

Does this mean that all non-human outcomes of evolutionary process - even if less revelatory of specific divine purposes than others - are

nonetheless the product of divine unilateral agency? On this matter, it seems to me, Peacocke's thought moves in two quite different directions. There are two strands to his thinking: one concerning immanence, which suggests to me a unilateral model, and the other concerning the role of chance and self-creativity in evolution, which opens the door for an invitational model.

In explaining divine immanence, Peacocke imaged God as 'exploring' a gamut of possibilities for created existence much in the manner that a composer - J.S. Bach, for example - explores possibilities for a fugue. Just as Bach begins with an arrangement of notes for a very simple tune, and then elaborates and expands that arrangement into a fugue by a variety of devices, so God begins with an arrangement of matter imbued with divinely-donated potential, and elaborates and expands that arrangement into an evolutionary process that produces, among other things, life on earth and homo sapiens within it. Peacocke stresses that creation is a continuous, open-ended process, and that God is immanent within this process much as Bach is immanent within his fugue. He tells us that "God is in all the creative processes of his creation" and that "they are all equally 'acts of God'". God is "everywhere and all the time present and active in them as their agent". The acts of nature are "his acts" (Creation 204). They are acts of divine self-expression. Here, it seems to me, Peacocke seems to speak as an emanationist panentheist who deems God's agency in nature unilateral.

In a different direction, however, Peacocke speaks of the role of "chance" in evolution, particularly biological, and in this respect his language opens the door for a dialogical model. Peacocke insists that biological evolution is open-ended, and that in it "chance" plays an increasingly influential role. In this context "chance" refers to the unpredictable intersection of individual traits within a biological population (including those produced by mutations) and the factors in the environment in relation to which some of those traits will prove to be more adaptive than others. As chance plays a greater and greater role in biological evolution, God's own purposes are "at risk" (Intimations 67).

In speaking of this risk, Peacocke emphasizes the riskiness of allowing free human beings to come into existence, who can clearly diverge from divine purposes or co-create in cooperation with God. But there are hints, at least as I read him, that the risk occurs even earlier in the evolutionary process. Peacocke notes that creativity plays a larger and larger role as evolution "becomes more and more focussed in the activity of the biological individual" (Intimations 67). He tells us that there are "errors", "false trails", and "dead ends" in the evolutionary process (67). This suggests that from Peacocke's perspective there may be events that occur in the history of nature prior to human life which are not expressive of divine intentions. At least Peacocke opens the door to the line of thought.

Divine Agency in Process Theology

Process theologians pass through the door, and I think that we, as fellow Christians, must as well.[2] They believe that errors, dead ends, and false trails occur in the evolutionary process, not necessarily because God wills them, and not necessarily because God allows them, but rather because nature has creativity in its own right. Even with respect to non-human nature, process theologians are dialogical panentheists. They

believe that the relation between God and the universe is - and has been from a beginningless past - an ongoing interaction between manifold creative agents: an all-caring, all-influential, and all-faithful agent whom we name God, and countless other agents, including ourselves, who collectively form God's body. Because this option offers a way of showing how God is responsible but not indictable for the plight of the second pelican chick, we do well to explore it in more detail. I will proceed by looking at how process theologians understand biological evolution.

Process thinkers agree with Peacocke that the errors, false trails, and dead ends in evolution occur because of "chance". Moreover, they define chance as does Peacocke: as the unpredictable intersection of individual traits and environmental stresses. (Birch, "Chance and Purpose in Evolution" 5). They then ask a further question: What property does nature possess such that unpredictable "accidents" can occur in the first place?

Their answer is creativity. In this context creativity means the act of actualizing possibilities, in ways not entirely predictable in advance, for integrating and thus responding to causal influences. An entity - a pulsation of energy in the depths of an electron, for example - is creative if, given a set of past circumstances by which it is about to be influenced, it can actualize one among two or more possibilities for synthesizing those influences. In fact this is the way the physicist Henry Stapp suggests subatomic matter works (McDaniel). According to Stapp, quantum mechanics helps us to know in advance how a given energy-pulsation will probably behave, but not how it will actually behave until it thus behaves. Given the past circumstances, we must wait and see what the pulsation decides - albeit in an utterly nonconscious way - to respond. There seems to be an element of spontaneity, of creativity, even in the depths of matter. Process theologians propose that "chance" in biological evolutoin on earth is rooted in creativity of this sort. While the general contours of evolution can be predicted as matters of statistical probability, the detailed course of evolution cannot be predicted or predetermined, even by God, because the agents of evolution - at least many of them, from subatomic events through living cells to multicelled organisms - have spontaneity in their own right.

Here the Christian might assent, but then add that creativity in evolution is identical with God's creativity. This can be to adopt an emanationist perspective. It is also to run into problems of natural evil. To equate the creativity of nature - which obviously issues into much tragedy as well as much good - with the creativity of God is to call into question divine goodness. The best that one could say with this equation of worldly creativity with divine creativity is that the unfolding of the universe is divine play, the choreography of "a lonely cosmic dancer whose routine is all creatures and all worlds" (Smith 84). Could he reflect upon it, the second pelican chick would find little consolation in this perspective, nor would the Jewish boy hanging from the gallows at Auschwitz.

For purposes of theodicy, let us assume that worldly creativity and divine creativity are different. The task for process theologians, then, is to show how God is active in a creative evolutionary process whose creativity is different from God's own. In accomplishing this task, they agree with Peacocke that the creative activity of God is best conceived as continuous and everpresent, that divine creativity has been at work

from the beginning of our cosmic epoch, and that the presence of this creativity is responsible for the fact that there is a universe and a world as we know it. For them as for Peacocke, God did create the world.

Yet, for them, God did not create the world out of nothing. As I will explain in greater detail shortly, he - or better, She - created the world out of a chaos of energy-events present at the beginning of our cosmic epoch. At that stage the chaos was within her as part of her body, and while it was devoid of order and novelty, it was nevertheless possessive of its own ability to actualize possibilities, its own creativity. By availing the chaos of possibilities for order and novelty, God gave birth to the universe within herself, and the birth process continues. In the words of Paul, even today creation "groans in all its parts as if in pangs of childbirth. Not only so, but even we ... are groaning inwardly" (Rom.8:22-23).

I use the feminine pronoun purposefully, though I do not mean to imply that masculine language cannot also be helpful. Within contemporary Christian communities, different images can and should be used to indicate the all-loving God of Christian faith, female as well as male. As Sallie McFague shows, all of these images are metaphorical (McFague 29-45). In dealing with the image of God as creator, my reasons for preferring female to male imagery are well stated by Peacocke, who writes:

> The concept of God as Creator has, in the past, been too much dominated by a stress on the externality of God's creative acts - he is regarded as creating something external to himself, just as a male fertilizes the womb from the outside. But mammalian females, at least, create within themselves and the growing embryo resides with the female body, and this is a proper corrective to the masculine picture - it is an analogy of God creating the world within herself (Creation 142).

Many process theologians agree with Peacocke's analysis. More than a few process theologians are women, and they, like Cobb and Griffin, find that an exclusive use of masculine imagery of God "distorts our images and represses women" (Cobb and Griffin 135). Particularly with respect to a panentheistic image of God as Creator, it is helpful to imagine God as a divine Mother who creates the world within herself rather than a Father who creates it outside itself.[3]

Of course, whether God be imaged as Father or Mother, a "creation out of chaos" perspective diverges from classical, postbiblical Christianity. Recognizing this fact, process theologians argue that such a perspective nevertheless warrants the designation "Christian" because, among other things, it is continuous with the earliest strands of biblical thinking concerning creation. As Birch points out, citing Pelikan, "where the technical term 'create' is used in the Bible, the issue of creatio ex nihilo is not raised" (Nature and God 89). The doctrine was first articulated in the intertestamental period and later elaborated by Irenaeus and Augustine in order to counter the idea that matter was the source of evil. Griffin and Cobb argue that creation out of chaos is more biblical, that it is suggested "by more Old Testament passages than those supporting the doctrine of creation out of nothing" (65). And on this Peacocke concurs. Despite the fact that he prefers the ex nihilo

perspective because of its emphasis on the absolute dependence of the world on God, he notes a consensus among scholars that "the principal emphasis in ancient Israel's understanding of creation was that Yahweh created order, a cosmos, out of chaos" (Creation 82, 141).

If we assume that several different understandings of creation can coexist within contemporary Christianity; and that given its biblical precedents, a creation out of chaos model is one among them; then I believe Christians can accept such a model. Then the question becomes: How does God create out of chaos? In what manner, unilaterally or by invitation?

Process theologians propose that God created the world, and continues to do so by beckoning or invitation. In specific, God is present in and through aims or purposes, felt in a conscious or non-conscious way by creatures themselves, to integrate other causal influences in ways that promote order where order is needed, and novelty where it is needed. These aims or purposes are goals from which creatures may diverge or by which they can be drawn, relative to their own capacities for creative self-determination. As human life attests, creatures may indeed choose aims other than those willed by God. In any case, the creatures must themselves actualize the possibilities. God's creativity lies in offering the possibilities, which are the means through which God exercises divine guidance in the world. The divinely-derived possibilities are not goals which violate a creature's creativity: rather they are goals for a creature's creativity. God creates by inviting creatures to integrate causal influences, and thus create themselves.

To better understand this perspective, the musical analogy offered by Peacocke can be extended. If God is a composer or conductor, God is, as Birch puts it, "writing a score a few bars ahead of the orchestra, taking into account their harmonies and disharmonies as he proposes the next movement of the music" ("Chance and Purpose in Evolution" 13). A score consists of possibilities for playing music, and it may change as the music changes, though always it is the best for the context. As exercised through these possibilities, the power of God is the power of persuasion to harmonize the whole and to inspire each musician to play her best given her capacities. God needs the world in order for the music to be played; the world needs God in order to have an ongoing score that offers direction and novelty. At a given moment in the history of nature, God does not perform the music ex nihilo, rather God performs it with the help of creatures whose very lives, at an earlier stage, she herself called into existence out of chaos.

Clearly, the process perspective hinges on the assumption that creatures can feel possibilities and have aims in the first place. It hinges not only on a transcendence of mechanistic images of nature, but on a particular alternative to mechanism, one that emphasizes the anticipatory dimension of individual creatures within natural processes. Here "creatures" are finite seats of creative sentience. They include individual energy-events within the depth of atoms, living cells within plants, and multi-celled animals such as human beings. None of these creatures should be understood atomistically; all are what they are in relation to other creatures and God (Birch, "Chance and Purpose in Evolution"). All are influenced - that is, caused - by other creatures, which are themselves influenced, or caused, by still others, ad infinitum. A creature's creativity lies in integrating the influences

from which it emerges, sometimes in a novel way. God's aims for the creature are experienced by the creatures as possibilities for integration. Hence God works with the causality of the world, not against it or apart from it. God is found in the anticipatory - or goal-directed dimension - of creaturely existence.

In human life, this anticipatory dimension is most apparent. The possibilities which we derive from God are experienced as inwardly felt calls or promptings toward the fullness of life relative to the situation at hand, toward what the Bible calls shalom. It is as if within each of us there is a beckoning light - a still small voice - that calls us beyond who we have been (and perhaps beyond who society tells us we ought to be) toward who we can be if we are true to ourselves and to God. Our awareness of this voice is provoked or inhibited by social circumstances and environmental contexts. At best, it is nurtured by the church and participation in sacraments. Oftentimes we are called by the inner light to repent, to turn around, from past ways of being in order to better love God, the world, and ourselves. Of course, the words "light" and "voice" are metaphorical. They refer to an invisible attractant that lies within each of us: an inwardly-felt Lure toward self-actualization in community with other people, with the rest of nature, and with the divine spirit. This Lure is God immanent in us as an agent of our well being, as a Holy Spirit.

Because the very aim of this Holy Spirit is for creaturely well-being, and because Christians see a compassionate aim of this sort as decisively exemplified in Jesus, the inwardly-felt Spirit can also be named "the Logos" or "the universal Christ" (Cobb, Christ in a Pluralistic Age). Indeed, in keeping with the broad connotations of the word "universal", process theologians suggest that this Spirit - the cosmic Christ - is also present in non-human life. The Lure of God's Spirit is that by which non-human organisms are inspired to live from moment to moment with some degree of satisfaction relative to their situations. Through the immanence of this Spirit the second pelican chick is inspired to seek satisfaction, and through it the first chick - his competitor born two days prior - is similarly inspired. In the struggle between the two chicks, God is on the side of each, desirous of the well-being of both. The Holy Spirit is the Eros toward life by which biological (including sexual) eros is itself elicited, and to which it is responsive. As fully biological creatures, humans, too, experience God in this way: a way which has too often been neglected in dualistic versions of Christian self-understanding.

Process theologians also suggest that the Lure of God is present within inorganic matter. Here they will strain the credibility of those for whom inorganic matter is "lifeless" and "inert" for clearly something lifeless cannot in any way experience or respond to aims or purposes, divine or otherwise. But they suggest that in its depths matter is not utterly inert, and that contemporary physics, particularly quantum mechanics, invites us to infer that there is a kind of purposive activity even within allegedly lifeless matter (McDaniel). The energy-events which constitute matter are not simply products of their pasts. They are actualizations of possible futures. In and through possibilities available for actualization by matter in its depths, God is present within the depths of matter.

For creatures at the inorganic level, however, the invitation to create

is for the most part irresistible. Energy-pulsations within the depths of matter have little ability to resist divine purposes; hence much of what has happened in cosmic and chemical evolution may be attributed to divine intentions. Here the music of creation may indeed be like a fugue, the movements of which are beautiful and yet predictable. Still, the creatures themselves must play the music, which accounts for the slight unpredictability in inorganic processes.

With life on earth, however, the role of the creaturely musicians becomes even more pronounced. The fugue becomes an open-ended symphony, and the divine composer-conductor becomes an Improvisor. The capacities for resistance, as well as co-creativity, increase, and the divine purposes become much more like divine hopes. In ways not evident before, what Christians have traditionally called a "Fall" becomes possible.

And here the plight of the second pelican chick becomes relevant. Cobb and Birch propose that "the symbol of the fall...can properly be used to describe particular occurrences in the evolutionary historical process", and that the coming of animal life was itself such an occurrence (120). Prior to animal life, they say, there was little if any suffering as we know it, and there was much greater stability. "Animal life introduced greatly increased instability into an otherwise regular world". The evolution of animal life was a "fall" in that it was "the occurrence of a new level of order and freedom bought at the price of suffering". Yet it was an advance as well, because it introduced greater opportunities for harmony and intensity of experience, greater opportunities for creativity and sentience. It was, so Birch and Cobb say, a "fall upward" (120-121). The second pelican chick suffers from this fall.

Here two questions emerge. Did the benefits of this fall upward outweigh the costs? And was the fall upward willed by God? Process theologians answer yes to both questions. They see the lure of God at work in the evolution of life on earth, including animal life, and they believe that the benefits of increased creativity and sentience for animals were worth the costs to the rest of creation, to animals themselves, and to God.

The costs to God - at least to a God who is all-loving - must have been great. In the first place, the beckoning of the world into animal life involved risk, a relinquishment of divine control. No doubt as soon as animal life emerged - and much more dramatically with vertebrate life - much began to occur in evolution that was difficult if not impossible for God to harmonize. In particular, strategies for survival emerged - such as that of the white pelicans - that could not easily be harmonized with God's desire for the well-being of each individual creature on its own terms. Like a mother cares for all her children, but whose children must fight one another for a single piece of bread, God found herself - and undoubtedly still finds herself - on the side of individual creatures whose own interests were, and are, mutually exclusive.

In the second place, the luring of the world into animal life involved an increase in divine suffering. If one considers the countless billions of painful experiences suffered by creatures since animal life began, and imagine that in each instance that suffering was shared by an all-empathetic God, the suffering of God staggers the imagination.

Why, then, did God not lure creation into forms of pain-free animal life? The answer, according to Cobb and Griffin, is that God could not

do so. Built into the very nature of life are necessary correlations among the following five dimensions of life: (1) the capacity for self-determination, (2) the capacity for intrinsic good, which is the enjoyment of harmony and intensity, (3) the capacity for intrinsic evil, which among other things is the suffering of unwanted pain, (4) the capacity for instrumental evil, which includes harming others, and (5) the capacity for instrumental good, which includes aiding others. If any of these given capacities increase, the others increase proportionately; "the good cannot be had without the bad" (73). These correlations are necessary rather than contingent, which means they are not dependent on choice, even divine choice. Given that God lured creation into animal life, God had to take the risk that with the increased capacities for sentience enjoyed by animal life, there would be increased possibilities for pain. There was no option: either life with pain, or no life at all.

For those who have enjoyed at least a modicum of richness of experience, the divine risk seems to have been worth it. Between suffering and joy on the one hand, and non-existence on the other, we are glad we have had suffering and joy. But are there not some for whom joy has not outweighed suffering, and for whom non-existence may be a preferable option. Was the risk worth it for them? Was it worth it for the second pelican chick? It was worth it, I believe, only if the victims can be redeemed.

IV. The Redemption of Pelicans

Just as God's love for nature cannot be limited to the whole of nature at the expense of nature's parts, so God's redemption of nature cannot be so limited. If the love of God is anything like that of an all-loving parent, God would want to redeem the parts as well as the whole. As the Mother of all pelicans, she would want to redeem the individual backup chick as well as the entire family of pelicans.

But whole-part language is itself misleading. While nature is a complex network of interdependent creatures, it is not a "whole" in the sense of being a "completed" or a "perfectly harmonious" assemblage of parts. Nature is an unfinished evolutionary process and, therefore, incomplete. And at least from the perspective of sentient prey in predator-prey relations, it is a disharmonious process, a broken process in which the good of one is evil for another. When we speak of God's redemption of nature, let us have in mind those animate "parts of the whole" whose lives on their own terms were broken, because most of their felt needs were unfulfilled. The second pelican chick can be our paradigm.

The word "redemption" has different meanings. It can mean (1) freedom from the consequences of sin, in which case it applies almost exclusively to humans. But it can also mean (2) freedom from what distresses or harms, (3) contribution to lives beyond one's own, and (4) transformation into an improved state-of-existence. We do well to consider whether "redemption" in these additional instances can apply to the pelican chick.

First, consider redemption in the sense of freedom from what distresses or harms. Clearly the backup chick can be redeemed in this sense, and apparently without the help of God. For death itself provides him with freedom from the suffering he underwent in his brief existence on earth. Death can be a friend: a redemptive end to his brief misery. Still, if

this is the only sense in which the pelican chick is redeemed, it is not clear that the risk taken by God in luring the world into animal life was worth it for the chick. Given the improbability of his surviving with satisfaction, it is possible that it would have been better for him if he had never existed in the first place, so as not to have undergone the pain that required a redemptive death. The question is whether the intensity of life within pain is worth it for a creature, even if that life is devoid of harmony. In the final, concluding paragraphs, I will return to this question. For the moment, however, it is advisable to reflect upon redemption in the other two senses.

Redemption as Contribution to Lives Beyond One's Own

Consider redemption as contribution to value beyond oneself: in this case, contribution to the lives of other creatures. In being part of an evolutionary process in which white pelicans have survived for thirty million years, the backup chick serves succeeding generations of pelicans. Without backup chicks such as he, there would be no insurance policy for the survival of pelicans as a species. Moreover, he serves the interests of parasites who reside within his body before and after death, and of creatures who feed on him. Upon death his bodily chemicals are absorbed into the earth, and they then nourish other creatures. He lives on, not as a subject for himself, but as a dispersal of energy for others. He is an "innocent sacrificed to preserve a line, a blood sacrifice perishing that others might live" (Rolston 144). We might say that his life is "redeemed" inasmuch as he acquires this instrumental value for myriad other creatures, "redeemed" as a contributor to an evolutionary ecosystem much greater than he.

But there is a problem with this line of thought. The acquisition of instrumental value for other living beings - important as it is - does not necessarily make the experiment of life worth it for him. After all, he feels that he is an end in himself, not simply a means to other ends. His life may serve others, but he seems to gain no pleasure from this fact, or even to be cognizant of it. He simply struggles to survive, as if his survival mattered in its own right. While we might find the chick's instrumental value quite meaningful, this meaning is not redemption for the chick on his terms. The aims to survive, felt by the chick himself, are frustrated rather than served by the evolutionary ecosystem of which he is a part. If we speak of his redemption as service to the ecosystem, we neglect his own interests and needs.

There is still another way, however, in which the chick might contribute to a value beyond himself, a way that does not involve neglect of his own interests and needs. The chick can contribute to the life of God. I have already suggested that as each living being takes into account its environment moment-by-moment, living out its aims and needs, its experiences are shared by God. This occurs in the receptive side of God, that side which is limitlessly empathetic. As we think about this receptive side, process theologians propose a further image: one that taps into some of our deepest hopes for communal wholeness. They suggest that as each and every creature is empathetically felt by God, the creature's momentary experiences are appreciated and harmonized, as much as is possible, with the felt needs and experiences of every other creature. Thus, the receptive dimension of God is an ultimate, ongoing intense harmony. The quality of this harmony is affected by what it receives, and it includes tragedy. It is best characterized by the word

"beauty": the Adventure of the Universe as One.

Perhaps as contributing to God, then, the pelican chick might find his redemption. For as divine harmonizing occurs, the chick's experiences are linked with everything else in the universe in a way that transcends the brokenness of creation as he experienced it. A harmony is achieved in God that is not achieved on earth. This eschatological harmonization does not involve a forgetfulness of the chick's life on its own terms. Rather, to whatever extent possible, it involves a creative integration of his life on his terms with all other lives on their terms. It is the realization in divine experience of an eschatological community of love. The chick is redeemed by contributing to, and being remembered in, the everlasting life of God.

It is important to recognize that this additional type of contributive redemption does, indeed, involve divine power: the power to bear suffering, and to creatively integrate worldly experiences into divine beauty. The very Mother who was limited in her ability to create life without discord is powerful enough to redeem lives of discord, at least as subjects in her own experience. This kind of "power" transcends the image of unilateral control. It is a power to receive and then create something new. Here God does actualize possibilities of her own. God becomes not only a composer and conductor, but a musician in her own right. Hers is the power, not to prevent the crosses her children must suffer, but to actualize an ever-dynamic Resurrection within her own experience: a Resurrection in which each child is loved and appreciated for his or her own sake. Here the image of all-loving Parent is appropriate: whether that parent imaged as Mother or Father. In what follows I will continue to use female imagery for God both for consistency and as a much-needed corrective of, and supplement to, the preponderance of male imagery in the Christian heritage.

But is this redemption sufficient to make the risk of life worth it for the chick? After all, the chick himself does not experience the Resurrection, at least as a subject for himself. His life may be redeemed in the sense that it contributes to the Adventure of the Universe as One, but he does not experience this as a fulfillment of his own felt needs. As an individual seat of awareness with needs of his own, he simply dies. Is there any way to imagine the pelican as experiencing his own redemption?

Asking this question we must consider the possibility that the pelican partakes of some sort of renewal after death in which he is allowed to fulfill those needs for survival and satisfaction which were so brutally frustrated in his earthly life. Here we consider the fourth meaning of redemption: transformation into a new state-of-affairs.

Transformation into a new State-of-Affairs

This kind of redemption, too, would involve the power of God, for the transformation occurs through the gift of new and often unanticipated possibilities for wholeness amid brokenness. In this life, many of us already know "redemption" in this sense. We find ourselves in situations of hopelessness, and like slaves in Egypt, we discover new possibilities for hope amid our hopelessness, new possibilities for a promised land. Process theologians would say that such refreshment in this life is in fact a gift from God, the result of divine grace. For the lure of God is

an ever-present storehouse of new possibilities. This view is consistent with, and indebted to, much of the prophetic biblical tradition, which, too, sees God as the source of new and unanticipated possibilities (Brueggemann). Indeed, as Ugaritic scholar Loren Fisher has argued, redemption as the gift of new possibilities for order out of chaos is inseparable from what the Bible usually means by creation. If by "creation" we mean creation out of chaos, "creation...is redemption" (quoted in Creation 82).

It follows that if divine creation is to some extent dependent on creaturely response, so is divine redemption. Increasingly, as creatures have evolved who are free to diverge from divine aims, they must themselves respond to the divine lure toward redemption, if in fact they are to be redeemed. A doctrine of co-creativity needs to be complemented by one of co-redemptivity. In order to be redeemed, we must ourselves - and perhaps other creatures, too - respond to divine grace.

But, of course, this may be a moot point for the pelican chick. No doubt he might like the opportunity to respond to redemptive possibilities offered by God, but he must have some context for doing so. If he is to enjoy redemption, he must live in some way beyond his own earthly death, so as to be given further opportunities to co-create with God.

While historically more Christians than not have hoped for renewal after death, whether in the form of a heavenly joy or resurrection of the dead, more often than not this renewal has been conceived as gift to be enjoyed only by human beings. A contemporary theology of nature that shares in this hope cannot be satisfied with such anthropocentrism. Just as we hope that other humans, given their propensities and needs, find appropriate fulfillment in life beyond death, we must hope that fellow creatures, given their propensities and needs, find fulfillment in life after death.

Let us be clear about this hope. The hope is not that all creatures share in the same kind of fulfillment beyond death. Rather it is that all creatures share in that kind of fulfillment appropriate to their own interests and needs. What a pelican chick might know as a fulfillment of needs would have its own kind of harmony and intensity, one quite different from what we humans might know. If there is a pelican heaven, it is a pelican heaven. And the hope is not necessarily that all living beings live forever as subjects in their own right: rather it is that they live until they enjoy a fulfillment of their needs as creatures. Neither pelicans nor humans need live forever. What spawns the hope for life after death is not a desire for immortality, but rather a recognition that so many lives - indeed, the vast majority - end in incompleteness. Given the inescapable lure to live with wholeness and satisfaction, a lure which itself is the immanence of a creative God, one life does not seem to be enough.

In recent times, of course, it has not been fashionable for Protestant Christian theologians, much less those interested in a theology of nature, to speculate on the possibility of life after death. One exception to this generalization, however, is John Cobb. More than twenty years ago Cobb developed a process-oriented Christian natural theology in which, among other things, he tried to show both the possibility of life after death using the philosophical conceptuality of Whitehead (Christian Natural Theology 63-70). In so doing, he drew upon

Whitehead's distinction between the animal psyche and the animal brain, plus Whitehead's recognition that there could be relations among actualities not mediated by bodies in three-dimensional space. Cobb's intention was not to show that psychic existence is necessarily renewed after death, but that reality may well be constituted in a way that allows for such renewal. He agreed with Whitehead that the question of whether or not there is renewal can be decided on empirical evidence.

There is no need to rehearse Cobb's argument in this paper. It is important to note, however, that in developing his view Cobb acknowledged Whitehead's own suspicion of the view that for all humans there is a renewal of personal existence after death, and for all other animals there is no such renewal. In Cobb's words, "Whitehead is doubtful that so sharp a line can be drawn between animals and humans that there is real warrant for affirming total extinction of all animals and survival of all humans" (64). The implication, I believe, is that Cobb is doubtful as well. If human psyches survive death in any way, there is little reason to think that non-human animal psyches do not.

Few if any process theologians have developed the implications for non-human animals of the possibility of life after death. For that matter, many process theologians are skeptical that there is any life after death at all, despite its possibility. They follow Hartshorne in seeing redemption as contribution to the life of God. Nevertheless, it seems to me that the question of whether or not animal psyches survive death is relevant to the question of whether or not the pelican chick can enjoy his own redemption. The question is relevant to a theology of nature.

If the chick does continue in some way, and if God is immanent within him as Lure toward fulfillment in that state just as God was immanent before, then it becomes imaginable that, in time, the pelican would experience his own fulfillment of needs and interests, his own redemption. The risk taken by God in luring the world into life, which sets the stage for pelican life, was then worth it, even for the chick. Without the fall upward into animal life, by which he himself was victimized, there would have been no eschatological fulfillment, for him or for us.

Whether or not we choose to hope for life after death depends on what we take to be evidence. Some turn to parapsychology, and this may be a promising avenue to explore. In any case Christians can also turn to accounts concerning the resurrection of Jesus as one resource on which to rest their hopes that, in fact, the possibility of life after death is an actuality. Still, the hope remains a hope. If it does not subvert our zest for life on earth, it is a hope by which we might live as we encounter nature "groaning in travail". It is not a fact concerning which we can or need claim certainty.

V. Conclusion

This essay began with the pelican chick and has returned to him again and again. We do well to end with him. Rolston writes that "the luckless backup chick suffers and dies, a minor pelican tragedy, but this sort of thing, amplified over and over, makes nature seem cruel and ungodly" (140). Struck by the truth of Rolston's claim, I have argued that God

suffers with the backup chick and with all sentient creatures, and that, while God is responsible for the fact that the chick exists in the first place, God may not be indictable for the chick's fate, at least if the chick is redeemed. In the final section of the previous section, I suggested two ways of understanding redemption that rely on divine power: (a) redemption as contribution to the divine life, which relies on God's power to creatively synthesize creaturely experiences, and (b) redemption as the chick's own renewal after death, which relies on God's power to lure him into a wholeness beyond the brokenness he experienced in life. The latter possibility is a form of redemption for which I hope, but on which I do not want to rest the meaning of redemption. Rather I rest it on the first meaning. I conclude by noting two reasons which lead me to hope that, even if there is not a renewal after death, the backup chick's life is nevertheless worthwhile, even on his own terms.

The first has to do with what we, and I suggest other living beings as well, find meaningful and hence worthwhile in life. It is richness of experience, which itself consists of intensity as well as harmony. In human life at least, to partake of intensity as well as harmony, and thus to enjoy richness of experience, is not simply to risk suffering: it is also to know certain kinds of suffering, both psychological and physical. There is something rich, though not pleasurable, in grief born of empathy, and in sweat born of physical labour.

I do not in the least want to suggest that all suffering enhances richness. Much suffering - particularly that which is intense and which is undergone involuntarily - does not contribute to an individual's well-being at all. All things considered, things would have been better - for the individual, for us if we are sensitive, and for an all-loving God - if circumstances had been otherwise. But the very fact that some suffering does contribute to what we know as richness of experience suggests that we should be very cautious in evaluating the interests of other humans and non-human creatures. We should let them speak for themselves. Because our non-human friends cannot speak in languages we understand, we should be quite cautious in concluding that things would have been better had they never existed at all, and thus that, if their life is to have any meaning at all, they must survive death in order to find satisfaction. Even if there is no renewal after death, their lives - and ours as well - may have enough richness of experience in the form of intensity to make them worth living, even if that richness could be much improved by an addition of harmony.

The second reason why it is not necessary that life be renewed after death in order for life to be worth living pertains to the ultimate meaning of life. Of course, it is bold and presumptuous to speak of life's "ultimate" meaning. I will attempt to do so anyway. I believe that the ultimate meaning of life lies, not in a fulfillment of our individual needs, important as that fulfillment is not only to us but to God, but rather in our contribution to the divine life. It is not that God is a monarch whose vanity we must serve, or that God is a patriarch in whose service we are mere vassals. Rather it is that God is a living, ecological Whole in whom our own longings for wholeness - and the longings of other creatures as well - are fulfilled. In the model I have been developing in this essay, God is not simply the mind of the universe, God is the Heart of the universe, and we along with other creatures are the body of this Heart. According to the Oxford English Dictionary, Heart "means mind in the widest sense, including the

functions of feeling and volition as well as intellect" (159). In a sense that resembles this definition, the Bible speaks of "the heart of God" twenty six times (Harper's Bible Dictionary 377). As we use the mind-body analogy to understand the relation between God and the world, this biblical metaphor can help us today to overcome some of the sterile connotations of the word "mind" in its narrower senses. At a very deep level, we can recognize that our own hearts - and perhaps that of the pelican chick as well - long for union with a divine Heart. We can understand the very eros of life as a desire to be part of that Harmony and Intensity - that vital, partly tragic, all-compassionate, cosmic Beauty - which is God's life. In traditional language, we long to contribute "to the glory of God".

The God who is thus glorified need not be imagined as above or beyond the universe, though in a contemporary context there can and should be a variety of images, some traditional and some not. God can equally or alternatively be imagined as at the Heart of the universe, that is, at its centre or core. She may be considered "large", not because she has the power of a unilateral king, but because she is on the side of nature and of life. Here largeness is her largesse, her large-heartedness, her luring power, her grace. This largesse is expressed in her power to creatively transform, as best she can, the chaos of that into which life has evolved into a wholeness that fulfills life's yearnings.

It seems to me that the value of our lives must finally lie in the fulfillment of our own yearnings for harmony and intensity - and the fulfillment of the yearnings of other creatures as well - in a larger context, in the Heart of the universe. Of this fulfillment, too, we can be trustful, but not certain. The very model of God developed in this essay is the product of hope, or trust, not certainty. For when it comes to thinking about God, "we see in a mirror dimly" (1 Cor. 13:12). The most cursory survey of the manifold images of God which have appeared in the various world religions suggests that God is a multi-faceted mystery. Within Christian communities, attempts to conceive God are tentative attempts to "model a mystery" and thus love God with our minds. Amid our explorations, we need be cognizant of the fact that our minds are quite limited, that most of what we say is metaphorical, that much if not all of what we say may miss the mark completely, and that in all probability there is much more to the mystery than we comprehend. Nevertheless, as Christians who dare to believe that the divine Heart is Jesus-like, we can rightly hope that the divine mystery, whatever its other aspects, is all-loving and, for pelicans as well as humans, all-redemptive.

Appendix: Additional Similarities and Differences Between Peacocke and Process Theologians

There are at least two additional similarities between Peacocke and process theologians additional to those noted in the texts of this paper. The first concerns their respective conceptions of science and theology. Both Peacocke and process theologians are critical realists, which is to say (a) that both believe that science and theology tell us something about reality as it exists independent of human observation, and (b) that the models used in science and theology are fallible pointers - subject to criticism and revision - rather than infallible guides. Both would agree with Whitehead, who said that while a person

rightly tries to understand the nature of reality, "the merest hint of dogmatic certainty as to finality of statement is an exhibition of folly".

Amid their respective endorsements of critical realism, a difference emerges. Peacocke focuses on the concepts of science and theology as such, often bracketing ontological questions. As Robert Russell puts it: "Peacocke espouses a form of critical realist epistemology...tending to downplay the ontological questions which underlie it" (1). By contrast, process thinkers focus on ontological issues themselves, albeit in a way that is open to criticism and revision. They utilize heavily the metaphysical perspective of A.N. Whitehead, involving as it does a "likely story" - informed by religion and phenomenological analysis as well as science - concerning what reality is really like. In many instances, this difference between Peacocke and process theologians is merely apparent. For although ontological questions are downplayed in Peacocke, they are not entirely neglected. Peacocke does, after all, say things about what nature is like, and in so doing, he espouses an implicit ontology. As should be apparent from the similarities noted above, this implicit ontology is not all that different from the explicit ontology of process theology.

The second additional similarity lies in the fact that both stress the importance of a non-reductionistic science. In Peacocke's instance, the emphasis is on the non-reducibility of high-level concepts and theories (those dealing, for example, with the psychological states of a human being who is laughing) to low-level concepts and theories (those dealing, for example, with the subatomic neurological activities associated with that psychological state). Neurological concepts miss both the meaning and the character of the laughing. In the case of process theologies, the emphasis is on the realities to which the concepts refer. From a process perspective, there actually is - in the laughter herself - something "more" than the totality of subatomic neurological activities in interaction.

The "more" of which process thinkers speak is not a supernatural reality immune from physical or chemical causation. It is the sensation of laughing itself, which is a subjective event that emerges out of, and in so doing integrates, the neurological activities of the brain, into a single, momentary gestalt. The laughter - as a psyche - <u>is</u> this momentary act of laughing, plus all the psychic acts that preceded it, and all that will come after it. This momentary act is more than the totality of neurological events in interaction, because it is a subjective synthesis of those events, invisible to the observer's eye yet constitutive at the moment of the laughter's own "mind" or "soul". Although it is shaped by brain chemistry: it also shapes brain chemistry. It influences the brain even as the brain influences it.

Peacocke may or may not disagree with process thinkers on the relation of mind (or mental states) to brain (or brain states). While he does not take a definitive stand on whether the mind is identical to, or different from, the brain, he is strongly inclined toward a brain-mind identity. (<u>Intimations</u> 74-75: <u>Creation</u> 131). Where he definitely <u>does</u> disagree with process theology is, however, with the assumption held by process thinkers that the cellular and subcellular activities of the brain, too, either are, or are aggregate expressions of momentary pulsations of subjective (creative and sentient) energy. He rejects the "panpsychism" of process theology, which is the view that all matter - inorganic as

well as organic - has, or is composed of actualities that have, primitive degrees of inwardness. Peacocke's view is that this metaphysical hypothesis is unnecessary. Human (and other animal) subjectivity can well be explained as a phenomenon that emerged evolutionarily out of creative, though insentient, matter. (Creation 125-127).

Process thinkers reject the emergent evolution model, at least as it applies to subjectivity. They recognize with Peacocke that many new structures of existence (protons, atoms, molecules, living cells, etc.)have entered the history of nature at various points in cosmic history, and that these new structures have brought with them new properties. They know that when sodium and chlorine atoms first came together to make common salt, new qualities emerged in the compound sodium chloride which were not contained previously in the isolated atoms. But they argue that subjectivity is not an externally-observed property like salinity. It is not an objective attribute among objective attributes. Rather it is inwardness or sentience: the capacity consciously or non-consciously to take into account something else from a subjective point of view. Such sentience is at the very heart of life as we know it, and it cannot be explained as a property that mysteriously emerges out of material entities totally lacking such sentience. Instead we must recognize (as certain religious traditions have long known, and as quantum mechanics itself can imply) that there are degrees of conscious or non-conscious inwardness throughout matter, and that the sentience of living beings is an expression of, rather than an exception to, the inchoate sentience of inorganic matter. This means that, if by "life" we mean inwardness, allegedly dead matter is not utterly dead; it is just much less alive. And it means that, as applied to subjectivity, an emergent evolution model wrongly leaves the mechanistic model of matter unchallenged at the level of inorganic matter, when that model itself deserves to be challenged.

However, this debate is resolved, what is clear is that for both, even amid this fundamental difference, science cannot and should not be reductionistic. The concepts of biology cannot be reduced to those of physics, nor can those of psychology be reduced to those of biology. For both, new structues and new forms of existence have emerged evolutionarily which cannot be reduced to mere aggregates of simpler forms. Process thinkers would argue that these new structures are new forms of sentience; Peacocke would argue that sentience is itself a new form.

NOTES

1. One approach "is based on the analogy of human personal action in the world as elaborated by the philosophy of action" (231). A second - which presents insuperable problems for theodicy - is "the traditional approach" in which "God as primary cause acts in and through all secondary causes in nature and history" (232). A third approach emphasizes that science on the one hand, and faith in God's providential activity on the other, are "two different ways of looking at natural historical process" from different, though complementary, points of view (232). A fourth is that of process theology, which suggests that God is an actual influence among influences in natural processes.

2. Two systematic explanations of the process understanding of divine agency, both of which go into greater detail than I in this essay, are by Cobb ("Natural Causality and Divine Action") and Griffin ("Relativism, Divine Action, and Biblical Theology") in Owen.

3. Women who are, or who are influenced by process theology include Sheila Davaney, Catherine Keller, Nancy Howell, Valerie Saiving, and Marjorie Suchocki. Another important resource in this regard is Sallie McFague. For a closely reasoned argument for the importance of Mother imagery, see her Models of God: Theology for an Ecological, Nuclear Age. Though she does not identify herself as a process theologian, her perspective complements, and enriches, the point of view developed in this work. And while she does not develop, as I do, a creation out of chaos perspective, she persuasively argues that in Christianity today the image of God as Creator ought to be that of God as Mother (97-123).

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LIFE-CENTRED ETHICS IN CHRISTIAN PERSPECTIVE

Dr. Jay McDaniel

Of the five to ten million species that share our planet, the Earth is likely to lose "at least one quarter, possibly one third, and conceivably one half" within the foreseeable future of the next century or so. This loss "will represent the biggest setback to the planetary complement of species since the first flickerings of life almost four billion years ago", and it will be caused, not by climatic quirks or other natural forces, but rather "by a single species, man".[1] So writes Norman Myers, a consultant to the World Council of Churches and well-known conservation biologist.

The sombre implications of this warning are only slightly reduced by the fact that wildlife activists, including Myers himself, are working against almost insurmountable odds to reverse the trend. In association with organizations such as the World Wildlife Fund and the International Union for the Conservation of Nature and Natural Resources, preservationists spend their time and money working to protect the habitats, and hence the future, of threatened and endangered creatures around the world. These include - to list mammals alone - the chimpanzee, African elephant, Asian elephant, Bactrian camel, Saudi Arabian gazelle, gorilla, howler monkey, giant panda, tiger, gray whale, wild yak, and mountain zebra.

Why work to save these creatures? Among other reasons, because such efforts are in human self-interest. Through their germplasm and genetic constituents, species of animals and plants represent a unique stock of natural resources: a stock from which - in the interests of medicine, agriculture, and industry - humans may need to draw in the future, just as they have already so often drawn in the past. Myers tells us that each time we enter the neighbourhood pharmacy, there is "roughly one chance in two that the medicine or pharmaceutical we purchase owes its origin, in one way or another, to wild species."[2]

But self-interest is not the only reason why at least some wildlife activists spend their time and energy on wildlife preservation. Nor is it the reason why most of their cohorts in the animal welfare movement work to protect individual animals under human domestication - in science laboratories or factory farms, for example - from unnecessary pain or loss of life. Both groups recognize that, in addition to their instrumental value to us, animals have value in their own right. Many advocates of animal well-being are guided by a recognition that all life, not just human life, has intrinsic value.

Such activists exemplify what Charles Birch calls a "life-centred ethic", or, as I shall speak of it subsequently, a biocentric ethic. With the adjective "life-centred" Birch is naming and endorsing an ethical orientation that he and I believe the World Council of Churches can and should endorse. At a recent gathering of the World Council in Vancouver, representatives identified "the integrity of creation" as a primary value to be recognized by Christians throughout the world. Birch proposes, and I with him, that the phrase "integrity of creation" can refer to the intrinsic value of each and every creature as it exists in relation to its environment and to God. The intrinsic value of a creature is its

value in and for itself. A life-centred ethic is rooted in respect for such value. While any application of this ethic in practice "involves the recognition of a hierarchy of intrinsic value and the weighing up of intrinsic value with instrumental value", practitioners of the ethic must begin with a recognition that all living things have value in their own right.

For the World Council of Churches, influenced as it is by biblical ways of thinking, a life-centred or biocentric ethic will include a strong emphasis on human life. This means that any concern for the integrity of creation will include an unmitigated concern for justice among and peace between humans. It is no accident that the representatives at Vancouver highlighted three values for contemporary Christian emphasis: peace, justice, and the integrity of creation. The World Council understandably emphasizes that any theology of creation that ultimately excludes attention to peace and justice is short-sighted and un-Christian.

Nevertheless, given the anthropocentric nature of so much of the Christian heritage, it is not uncommon to find Christian thinkers emphasizing peace and justice without attention to the integrity of creation. Much Christian ethics has been practiced without attention to the integrity, or intrinsic value, of non-human creatures. Contemporary liberation theologies are an example. More often than not, they emphasize the liberation of humans from oppression by other humans, but they do not attend to the liberation of other living beings from human exploitation. Given the exigencies in which so much liberation theology emerges, this exclusion is understandable. But it is not necessary. The World Council three-fold schema rightly suggests that a liberation of human life can be complemented by a liberation of all life. In order to move toward a more inclusive liberation, it is important at the outset that some preliminary attention be given to what it can mean to respect non-human forms of life.

The purpose of this paper is to provide that preliminary attention. Written as a working paper for the World Council, its aim is to ask and answer four questions:

1. What characteristics must an organism possess in order to have intrinsic value?

2. What is involved in a biocentric ethic that attempts to respect that value?

3. Given the necessity of violating the interests of non-human creatures, how can degrees of intrinsic value be distinguished?

4. How are God and Christ related to biocentric ethics?

The paper is divided into four sections corresponding to these four aims.

1. The Intrinsic Value of Non-Human Life

To be anthropocentric is to be centered in the human to the exclusion of other creatures. While a life-centred ethic is avowedly

non-anthropocentric, it need not imply that all types of anthropocentrism are undesirable. At this stage in evolution, for example, humans seem to be the only creatures who have the capacity for, and responsibility to develop, a biocentric ethic. For the most part other creatures seem not to have a capacity for that all-inclusive care which rightly unfolds as a stewardship of the earth and a care for all its creatures. To recognize this uniquely human moral calling is to be appropriately anthropocentric. It is to exclude other animals from a responsibility toward which, to the best of our knowledge, only humans are called. Only humans sin by not adopting a biocentric ethic.

This unique moral calling has important theological implications. The human capacity for inclusive stewardship can be understood as part of what it means to be made in the image of God. Biocentric Christians can propose that God's image in human life is not a warrant for arrogance, but rather a potential for mirroring, in a finite way and given human limitations, that reverence for life which is God's own.

When advocating a transcendence of anthropocentrism, however, it is not moral agency that is of concern to most animal preservationists and others interested in a biocentric ethic. Instead it is moral patience, moral considerability. By "moral agency" I mean the act of making moral decisions in relation to other beings. A moral agent is a being (usually, but not necessarily, human) who has, or should have, a conscience, and whom we hold responsible for his or her decision in relation to other beings. By "moral patience" I mean the act of receiving ethical regard. A moral patient is a being (often, but not necessarily, human) who deserves the respect and care of moral agents. To be a moral patient is to be an end as well as a means. It is to have an intrinsic value which elicits care and respect from moral agents; which precludes moral agents from exercising certain forms of violence and manipulation; and which obligates those agents to act, as best they can, to facilitate one's well-being. Animal preservationists act, at least in part, because they recognize that non-human animals can be moral patients.

While some non-human animals may exemplify some degree of moral agency - as for example when elephants feed injured members of their own species, or when ducks adopt the young of other species, or when porpoises aid humans in distress - moral patients need not be moral agents. Christians and others have long recognized that many humans - the very young, the very old, the mentally handicapped, and the emotionally disturbed - are moral patients, even though they may not be, or have the capacity to be, moral agents. Despite the fact that some of these people lack an ability to reason, to use language, or to exercise moral agency, they seem to us important in their own right. We say that they cannot be treated simply as instruments for our purposes, that they are ends in themselves, that they must be treated with respect and care, that they cannot be abused or victimized. This is to say that they have intrinsic value.

But what is it about such humans that gives them their intrinsic value and their moral considerability? If we can identify the attribute in them which, despite their lack of moral agency and other assorted attributes, gives them intrinsic value, perhaps we then understand that attribute which, possessed by any creature, gives it such value.

The Intrinsic Value of Human Beings

Consider a physically and mentally handicapped two year old girl in a hospital whose family has died, and whose potential service to society - by most criteria cherished in the society - is negligible. Imagine further that the hospital is understaffed and overworked, such that neither nurses nor doctors are able to give her much time or care beyond that of physical maintenance. Though in principle she could be of instrumental value to them - in the sense that she might contribute to their lives through the sense of well-being they gain from serving her - they are too busy to partake of such enrichment. Her days are spent lying in bed, receiving care, and attending, as much as she can, to the sights and sounds around her.

Imagine that you - the reader - work in the hospital, and you walk in to see her, if only briefly because you, too, are overworked. As you look at her, you recognize that her "instrumental value" to humans is negligible. For a moment you wonder if it is worth the resources of the hospital, and perhaps even your own resources, to care for her. Nevertheless, as you look at her, you feel that she matters, that her life is important, that she should be cared for in her short duration on earth, if at all possible. Without using the words, you have an intuition of her "intrinsic value", her value apart from her usefulness to yourself and to others. What is it about her that elicits this intuition?

You might say she is a child of God, one of God's creatures. And from the point of view of this essay, you would not be wrong. But these phrases are abstract, they are theological interpretations of that about her which elicits your intuition. As she lies before you, your intuition of her intrinsic value is not provoked by abstract theological claims. Rather it is elicited by the very fact of her subjectivity: the fact that she is not simply an object for you, but also a subject for herself. To experience her as having intrinsic value is to experience her as a fellow subject.

When we perceive the girl as a fellow subject, we implicitly recognize two facts about her: facts which are essential features of her subjectivity, and which make her a subject. These facts are that she has "value for herself" and that she has "value in herself". Let me explain what I mean by each of these two phrases.

To say that the girl has "value for herself" is to say that her existence is a matter with which she herself is concerned, that her life is important to her, that she matters to herself. To have "value for oneself" is not necessarily to think about oneself as having value, nor is it necessarily to enjoy positive self-regard. Rather it is to have internal interests, or interests of one's own. For most people these interests are dimly discerned but deeply felt aims to live with some degree of satisfaction relative to the circumstances at hand. In the case of the girl, these interests would include an interest in being fed, in being warm when it is cold, in being allowed freedom of movement, and in being touched. The girl is a fellow subject because she has interests.

The girl's interests need not be felt consciously by her in order for them to be her own, or in order for us to appreciate them. At least this is the case given certain meanings of the word "consciousness". In

common parlance the word "consciousness" often has one or both of two meanings. It can refer to focussed perceptual attention on clearly defined data, as, for example, when I say, "I am now conscious of the tree outside my window". Or it can mean reflexive awareness, as when I say "I am conscious of the fact that I am aware of the tree". Consciousness can mean (1) clear and distinct awareness of a perceptual or cognitive datum, or (2) awareness of this awareness. Given either or both of these two meanings, interests need not be consciously felt in order to be "one's own".

For example, in early evening, having last eaten five or six hours ago, the girl may have an interest in being fed. She need not experience this interest as an object of clear and distinct perception in order for it, and hence her own life, to matter to her. She may not be "aware of her awareness" of her hunger. Instead, like most of us, she may feel the interest as a dimly-discerned, vaguely-felt need: in this case a physical rather than a mental interest.

The philosopher Whitehead spoke of such interests as physical purposes. These purposes include subconsciously apprehended goals and aims for relieving unpleasant sensations or for acquiring absent pleasures. Mental purposes, too, can be goals and aims. The actualizations of such aims involve distinctly psychological forms of satisfaction: as, for example, when the girl needs and receives affection. The point, however, is that aims or purposes, whether physical or mental, need not be consciously entertained in order to be important to humans. Wherever there is an internal need, physical or mental, apprehended either consciously or subconsciously, there is an interest. And wherever there is an interest, there is a fellow subject.

The second thing we recognize about the girl when we see her as a subject - in addition to the fact that she has value for herself - is that she has "value in herself". The phrase "value in itself" can be defined in many ways. I use it to refer to experiential richness of a creature's life as lived from the inside. The girl has value in herself because she has experiences which have a qualitative richness - a value or goodness - in their own right. This is to say that in her own way the girl takes into account her own body and aspects of her environment from a unique point of view, and that these acts of taking into account have, or can have, a qualitative beauty of their own as enjoyed from her own perspective. When she is fed, she tastes the food, and that taste has a pleasure of its own which is good: when she hears a sound and responds to it, her hearing has a harmony of its own which is good: when she feels the touch of another, she experiences that touch from her own point of view, and that experience has an intensity of its own which is good. The goodness - or qualitative richness - of these and other experiences may well be foreign to the forms of richness we ourselves enjoy. Nevertheless we sense its presence, and for that reason, as well as the fact that she has value for herself, we believe she has intrinsic value.

In order to have richness, the girl's experiences need not be conscious in the senses defined above. They can be bodily, or they can be psychological but dream-like. Most human experience is of the latter sort; it consists of dimly-discerned and vaguely-felt fantasies, reflections, memories, and hopes. It is similar to dream experience, in which we feel the presence of sounds and images, though not in a conscious way. While consciousness is a form of experience, not all

experience is conscious. The girl is a subject because she has richness of experience, conscious or subconscious.

Generalizing from the example of this girl, I suggest that other people have intrinsic value because they are fellow subjects with value for themselves and with subjective experiences that have value in themselves. Their experiences have a unique quality which, even if quite different from our own, can inspire our concern and, often, our appreciation. Their interests are the very ways in which their lives matter to themselves. "Intrinsic value" is a name for, and pointer to, the value other people have for themselves and in themselves. As I will show in the final section of this essay, this intrinsic value is also valuable to God. God loves people, not simply as instruments for divine purposes, but as subjects with value in and for themselves. A Christian ethic will love other people as God loves them. It will love them for who they are, and not simply for how useful they are. Before turning to God, however, we must first ask whether an ethic - Christian or otherwise - that recognizes intrinsic value should limit itself to people.

The Intrinsic Value of Other Animals

Might a non-human creature, too, have experiences and interests? And, if so, might it, too, have intrinsic value? As Bernard Rollin, author of Animal Rights and Human Morality, points out, there is evidence from at least five sources to suggest that at least some other animals, particularly those with advanced nervous systems, are subjects with interests and experiences, and hence with intrinsic value.[3]

First, and particularly relevant to non-human animals with nervous systems, there is the evidence from neurophysiology. In Rollin's words, "the presence of a nervous system in an animal certainly suggests that these structures perform a function similar to that performed in man".[4] Just as, in human beings, nervous systems provide physical contexts for taking into account external stimuli in light of internally experienced interests, so must nervous systems functions in other animals.

Second, there is biochemical evidence. "The presence in an animal of a biochemical mechanism that is similar to a mechanism in man that regulates some conscious state is evidence for something like that state in the animal".[5] Rollin points out that this principle may apply even to earthworms, in whom have been found the very chemicals (endorphins and enkephalins) which, in human life, are known to have pain-killing properties.

Third, there is behavioural evidence. "When an animal yelps or thrashes or shows avoidance behaviour in the presence of a stimulus known to be harmful or unpleasant to men, that is evidence for awareness in the animal".[6]

Fourth, there is anatomical evidence as manifest, for example, in the presence of sense organs. The existence of eyes, organs for hearing, organs for touch, or taste "certainly suggests that an animal enjoys some kind of consciousness".[7]

Fifth, there is evidence from evolutionary theory. "Given that evolutionary theory is at the cornerstone of all modern biology, and evolutionary theory postulates continuity of all life", it is implausible

"to suggest that a creature that has a nervous system displaying biochemical processes that in us regulate consciousness, or that withdraws from the same noxious stimuli as we do, or from other dangers, and that has sense organs, does not enjoy a mental life".[8] Better to assume the obvious: namely that it, too, is a subject with experiences and interests.

Of course, these conclusions contradict the mechanistic understanding of non-human life that has prevailed in the life sciences since the seventeenth century. For the most part, twentieth century biologists have bracketed altogether the question of animal awareness, or they have viewed animals as mere machines devoid of such awareness. Nevertheless, Rollins' conclusions are supported by a minority movement within contemporary biology called cognitive ethology. Just as cognitive psychologists take as their task the study of the cognitive life of humans, so cognitive ethologists investigate that of non-human life. With the help of laboratory experiments and field work, they explore the kind of conscious intelligence involved, for example, in an animal's construction of a domicile, or its use of tools, or its involvements in predator-prey relations. They see consciousness as a means by which vertebrates and invertebrates are able to alter their behaviour in order to deal with variables in their environments.[9]

Let us assume that Rollins' arguments and the perspective of the cognitive ethologists are correct. This means that at least some other animals - particularly those with advanced nervous systems - have intrinsic value. Three points can be noted about this value: points which apply to human and non-humans alike.

The first is that an experiencer's intrinsic value - be it human or non-human - is objective in the sense that it exists independently of its being recognized by an external observer. It is not assigned or ascribed; it is recognized or discovered. Just as the girl in the hospital has value to herself and an experiential perspective of her own whether or not others recognize it, so all fellow subjects - human or non-human - have value to themselves and experiential perspectives of their own whether or not recognized by others. This objectivity is subjective in the sense that it is the subjective dimension of the being at issue. Yet the subjectivity is itself objective in the sense that it exists - with its own richness of experience and its own interests - independently of its being affirmed by others. An organism's intrinsic value is the organism's unassigned being-for-itself.

The second point is that an organism's being-for-itself, and hence its intrinsic value, is relational, which is to say that it is dependent on the causal influence of many other things. This may seem to contradict the point made above, but it does not. While an organism's subjective existence does not depend on the recognition of other actualities, it does depend on the existence, and hence the causal influence, of other entities. Subjective experience is itself a creative appropriation of such influences in light of interests felt by the subjective experiencer, and these influences effect the quality of the experience itself. Just as the quality of experience available to human subjects is partially dependent on the history by which those persons are shaped and on the environmental circumstances in which they find themselves, so the quality of experience available to non-human subjects is dependent on past and present realities. A young, male deer in a forest is dependent on the

evolutionary heritage from which he emerges, and on the plants he eats, the water he drinks, and other deer with whom he exists in some sort of social relationship. Consciously or subconsciously, he takes into account sights, sounds, smells, and tactile sensations which enrich and gradually shape his own point of view. The quality of his own life, and the realizability of his own interests, would be seriously diminished if he were placed in a different, less variegated, setting. To be a reality for oneself - human or non-human - is to be dependent on, and affected by, other things, for good or ill. No organism, even from its own perspective, is an island.

The third point is that - amid its intrinsic value and its dependence on other things to support and enrich this value - an organism can also be of instrumental value to others. Consider the young deer. Even as he has value for himself, he also has value for others. He is an object of prey for other mammals; his feces nourish the soil in which worms and microbes live; his body houses parasites; and his eating habits maintain a balance of plant life. The deer is part of an ecosystem in which he plays an instrumental role. Even as he has intrinsic value, he has instrumental value.

II. The Practice of a Biocentric Ethic

As animal activists recognize, neither the instrumentality of an organism for other organisms, nor the relationality of its own subjective existence, belie the fact that it has intrinsic value, and hence that it is a moral patient. While there may be differences between human and non-human experiencers, there are no differences which justify an exclusion of the former, and an exclusion of the latter, from moral considerability. Wherever there is subjectivity, there is intrinsic value, there is moral patience. Intrinsic value is itself a necessary and sufficient condition for moral considerability.

As we recognize the moral considerability of other animal subjects, we are rightly concerned for the well-being of individual animals under human domestication. We attend, for example, to the millions of animal subjects who are consistently manipulated and killed each year in scientific experimentation. Whether or not we conclude that such experiments are justified will depend on the cases at issue. Any working out of a life-centred ethic in practice will involve, as Birch says, "the recognition of a hierarchy of intrinsic value and the weighing up of intrinsic value with instrumental value". No doubt the use of some animals will seem justified, and that of others will not. In cases where use seems justified, and where interests of animals are clearly violated, experiments will be done with empathy, reluctance, and sorrow. For the animals are moral patients, and hence subjects of interest and concern. Once their moral considerability is recognized, the quality of their lives become important to us, their destinies become our own.

The recognition of moral considerability of other animals also results in a concern for species in the wild. Such species are themselves collections of individual beings which, if subjects, have intrinsic value and moral patience. Each member of the species embodies a form of life - that is, a distinctive way of experiencing with quality of its own and with distinctive interests - characteristic of the species as a whole.

Among these interests is usually an aim for reproductive success, and hence for the survival of at least some members of its own species. This form of life can be made into an object of reflection in its own right: something on the analogy of a Platonic form. But most preservationists are not Platonic. They recognize that the form's actuality - that is, its life and vitality - is to be found only in the individual creatures that embody it. Preservationists are not interested in preserving the abstract form for its own sake, which could be accomplished simply by describing the form in books, perhaps with accompanying illustrations or photographs. Rather they are concerned with preserving at least some of the individual creatures who embody that form. Here, too, the concern is with the intrinsic value, and hence the moral patience, of individual creatures.

In general terms, to approach a fellow subject, human or non-human, as a moral patient is to cultivate and follow three practices. First, it is to have an inward disposition that is respectful of, and caring for, the creature at issue. This is to have that reverence for life of which Albert Schweitzer spoke: a reverence which, in relation to non-human creatures, has sometimes been instantiated in Primal traditions in Africa, Oceania, and the Americas, and in certain Asian religions such as Buddhism and Taoism. Christians in these non-Western settings, as well as their sisters and brothers in the West, can well appreciate in the World Council's insistence that dialogues with other faiths can and should inform the development of a biocentric ethic.

Second, the practice of a biocentric ethic involves what Indian traditions call ahimsa, or non-injury. This is to refrain as much as possible the violation of other creature's interests: for example, to refrain from inflicting pain when another creature has an interest in avoiding pain, and to refrain taking its life when it has an interest in surviving. The most dramatic example of this perspective as applied to non-human creatures is Jainism in India. The biocentric perspective developed by the World Council of Churches will not go as far as Jainism, but it can take this tradition as a welcome and everpresent challenge to the anthropocentrism that has prevailed in so much Christianity.

Third, the practice of a biocentric ethic involves the exercise of active goodwill. In relation to non-human creatures, this is not simply an avoidance of harm, it is the active fostering of opportunities for an animal to realize its interests. It is, for example, to protect and sometimes even to create habitats that are essential to the survival of a species, and to provide individual animals under human domestication with adequate food and shelter.

For the Christian, each of these three practices involves a generalization of the golden rule: an application of agape to neighbours who in many instances are non-human. The first of these three practices - reverence for life - is an art not a science. In relation to non-human creatures, such reverence can and must be guided by factual information from biologists familiar with the anatomical and behavioural needs of the animal under consideration. But it also involves and requires imaginative empathy. Avoiding the extremes of anthropocentric projection on the one hand, or an absolute denial of the sentience of other creatures on the other, one must imagine oneself inside the perspective of the creature at issue, experiencing the world from its perspective and in light of its interests. If this is impossible, and it is in many

cases, one must at least imagine that the creature has an experiential perspective of its own informed by interests of its own. With regard to humans and non-humans alike, imaginative empathy is an essential feature of a life-centred ethical perspective.

The second two practices - non-injury and active goodwill - require capacities in addition to imaginative empathy: capacities of discernment and judgement. The kind of moral considerability appropriately given to a moral patient - human or non-human - depends, at least in part, on the kind of interests possessed by that patient. If an animal has an interest in being in a warm climate, then that interest can and should be considered in one's treatment of it; if it has an interest in being in a cold climate, then that interest should be taken into account. The interests to be considered by moral agents are those which are held by, or relevant to, the moral patient. Different patients have different interests.

Moreover, in a world where there are competing interests among moral patients, not all interests can be respected. We live in a world where, unfortunately, life is robbery. For one creature to live, thus realizing its interests, others must die, thus having theirs frustrated. As humans, we, too, must choose between lives, violating the interests of some for the sake of respecting the interests of others. This fact becomes particularly relevant when we consider the intrinsic value - and hence the moral considerability - of non-human forms of life. Every time we wash our faces we kill millions of bacteria; every time we eat, we are accomplices in many deaths. The discernment of interests involves and requires a recognition of competing interests and a ranking of interests. It requires judgement.

III. Theology of Nature

It is with the need for judgement, preceded as it must be by the recognition that all living things have intrinsic value, that a biocentric ethic needs an adequate theology of nature. While the existence of intrinsic value in non-human creatures does not depend on such a theology, the sustained recognition of such value does depend on such a theology, as does the ranking of interests once intrinsic value is recognized. Consider two inadequate theologies of nature from which, in principle, Christians might proceed: the first of which obstructs the recognition of intrinsic value, and the second of which obstructs any capacity to rank interests.

Two Inadequate Theologies of Nature

First, Christians can approach other animals with a mechanistic theology of nature that stems from seventeenth century science. Animals are viewed as complex instances of lifeless matter-in-motion, different in kind from humans, who alone are thought to possess souls. Here animals become mere instruments for human or divine purposes. "Stewardship" means no more than prudent management of non-human "resources". The goodness of the earth and its creatures - a goodness of which Genesis speaks, and which can be understood as that of intrinsic value - is ignored.

On the other hand, those disillusioned with the mechanistic orientation

can approach other animals through the lens of an egalitarian monism such as one finds, for example, in Taoist points of view, or in the contemporary movement of Deep Ecology.[10] Such perspectives are often emanationist in orientation, pointing toward an ultimate stuff - God or the Tao - of which all things are expressions, and on the basis of which all things have equal intrinsic value. Such perspectives are indeed advances over the mechanistic orientation. With their help, we can recognize that intrinsic value extends throughout the realm of nature, even into plants and rocks. But if we follow the lead of such perspectives, we are left with no basis - other than arbitrary whim - for the kind of discernment and ranking of interests that is so needed if a biocentric ethic is to be practiced. When, for example, we must choose between the life of a ringworm-causing fungus such as mycosporium canus, and the interests of a dog whose skin cells and hair shafts are invaded by the fungus, egalitarian monism offers us no help in making the decision, since fungi and animals have equal intrinsic value. We may decide to take the life of a fungus, but we have nothing to say to others who choose the contrary. Nor have we anything to say to those who argue that the AIDS virus has greater right to life than the humans infected by it. Arbitrary whim is the final arbiter.

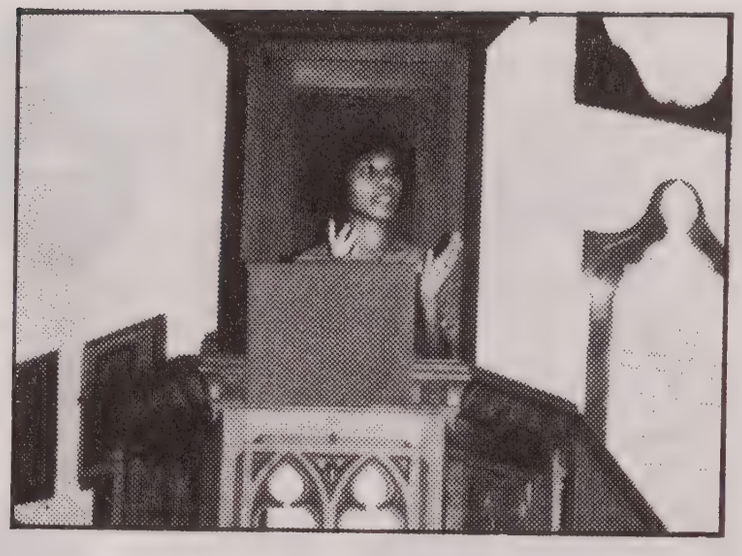
What is needed, then, is an adequate theology of nature. To be adequate, it must accomplish three tasks. First, it must help us to see the reality and nature of subjectivity, and hence intrinsic value, in humans as well as non-human life, and then guide us in discerning how far down and across the evolutionary chain such value extends. It must deal with the reality, nature, and range of subjectivity. Second, it must help us to distinguish types of organisms so that, among other things, we can deal with the world of plants as well as animals. And third, it must help us to distinguish degrees of intrinsic value.

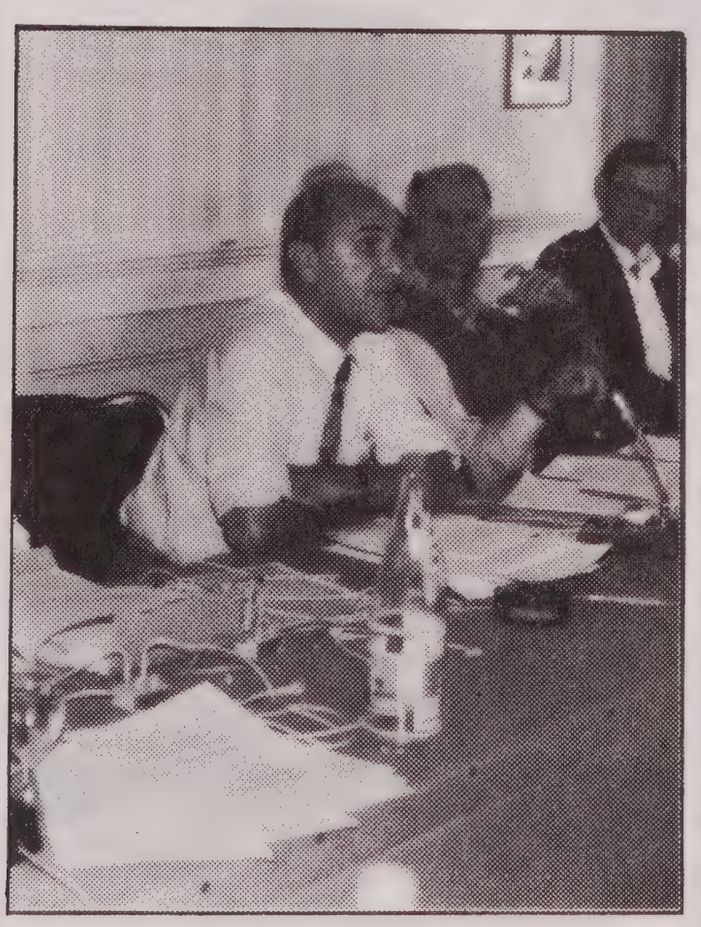
Among the most promising of such perspectives to date is process theology, influenced as it is by biblical points of view and by the philosophies of Alfred North Whitehead and Charles Hartshorne. Consider the way process thinkers attempt to accomplish the first of the three tasks.

The Reality, Nature, and Range of Subjectivity

Process thinkers suggest that subjectivity is as real as the physical world experienced by subjects, and that there is intrinsic value wherever there is subjectivity. They propose, as I did earlier, that subjectivity is relational rather than atomistic, and they assert further that it exists, not as something that endures over time, but rather in discrete moments. From their perspective the life of an animal - human or non-human - consists of momentary subjective experiences that arise and then perish, to be succeeded by subsequent experiences which are influenced by them, and which, too, arise and then perish. The building blocks of an animal life - human included - are momentary occasions of experience. The animal subject does not have the experiences, as if the subject were one thing and the experiences another, rather, as is said in Buddhism, the subject is the experiences. The intrinsic value of the subject is the intrinsic value of its interests-laden experiences.

With regard to the extent of subjectivity, process theologians suggest that momentary subjectivity of the sort just described extends throughout the realm of nature, through living cells even into that "dead matter" of





which living cells and inorganic materials are composed. They do not suggest that rocks and metal levers think or feel in ways similar to, say, humans and other animals. But they do recognize, as do many quantum physicists, that at a submicroscopic level apparently solid bits of matter consist, not of nugget-like particles, but rather of vibrant, momentary pulsations of energy. And they aver, as do some quantum physicists, that each of these pulsations takes into account causal influences from its submicroscopic past in light of possibilities for appropriating those influences decided-upon, by the pulsation itself, in the present. To take into account a submicroscopic past - even if, as is probably the case, subconsciously - is to experience it in a primitive way. To do so in light of possibilities - even if the taking into account of those possibilities, too, is subconscious - is to have aims which, in biological life, we call interests. The speculative proposal of process theology is that what we call "pulsations of energy" at the submicroscopic level are the most primitive instance in our cosmic epoch of what later, in living beings, we call "occasions of experience".

Two Types of Organisms: Monarchies and Democracies

It follows from a process perspective that the entire cosmos is alive with subjectivity and value. With this claim Christians can well agree, for the claim is one way of understanding the goodness of creation recognized by God in Genesis. But the unqualified affirmation of such goodness leaves us with little guidance in ranking incompatible interests between organisms: say those of a dog infected by ringworm, and those of the fungi that have invaded its skin and hair shafts, thus causing the ringworm. Or that of a cancer cell and that of a human in whom the cell resides. In the case of the fungus and the dog, whose interests should the veterinarian respect, those of the dog or those of the fungus? If a theology of nature is to help us in making such decisions, it must offer us some way of distinguishing different forms of organization in which intrinsic value can be found, after which it might help us to discern different degrees of intrinsic value relative to these forms of organization. Here, too, process theology is helpful. Of the many forms of life on our planet, process theologians suggest there are at least two basic organizational types.

The first is called, metaphorically, a monarchy. While the atoms, molecules, and cells of a monarchically-organized organism consist of billions upon billions of energy-events, the organism is more than its body. It is also a psyche. This psyche is a presiding stream of pulsations - a dominant stream of experiences - each of which on occurence consciously or subconsciously receives input from its body, initiating responses in its body to external stimuli. The psyche is the organism's spirit, its soul.

In organisms with complex nervous systems, the most intimate environment of the psyche is the brain. When we look at an organism's brain, we are not seeing the psyche, rather we are seeing the physical context which nourishes that psyche. At any given moment the psyche itself is an occasion of experience, partly conscious and partly subconscious, that creatively synthesizes brain influences and, along with them, past experiences in the psychic stream and subjective aims derived from God. The momentary experience then affects subsequent brain and bodily activities.

As lived from the inside, these psychological states are the subjective unity - the being-for-itself - of the organism at that moment. The organism does not feel itself as isolated within a brain, cut off from the world by the boundaries of the body; rather it feels itself as centred in a body, and yet reaching out, with the help of its senses, to include the world within its grasp. The dominant occasion of experience is the lived experience of the organism, it is the organism as an embodied soul.

The other type of organism is a democracy. A democracy is a system of energy-pulsations without a presiding psyche. It is a complex network of energetic events without a dominant stream of experiences. As a totality of parts, a democracy is not a being-for-itself; rather it is an aggregate of energy-events, each of which may have being-for-itself. It is like a city in which all the agency and sentience lies with the individuals composing it. While this city may be more than the sum of its individual constituencies, it is not a "more" with experiences and interests of its own. A democracy <u>is</u> the totality of its parts in relation.

This typology helps us to distinguish plants and fungi on the one hand, from animals on the other. Consider the dog infected by the fungus. He seeks food, shelter, variety in his environment. He tries to avoid pain, and he enjoys pleasure. Indeed, he seems quite capable of feeling affection for those who are kind to him, and animosity or fear toward those who harm him. He is a psychophysical organism: a body with a psyche. In discussing his intrinsic value, we rightly focus on what we imagine to be his reality-for-himself as a psyche experiencing the world with the help of a body. We care for his body by feeding him, knowing that such feeding will make him, as a psyche, happier than he would otherwise be. We try to assure that he has an environment with variety, knowing that he, like us, can suffer boredom. A dog is a monarchy.[11]

By contrast, most plants and fungi are democracies. They are aggregates of cells without a presiding subject. The unity of the fungus infecting the dog's skin, for example, does not seem to exceed the unity of its cellular parts as parts. While the cells in the fungus may have interests in being nourished by chemicals in the dog's skin, there is little evidence that the plant as a whole has an experiential perspective of its own. Its interests are those of its cells as they exist in relation to one another.[12] The fungus and most plants are democracies.

Of course, there are undoubtedly exceptions to these generalizations. More complex plants such as angiosperms may have the beginnings of a psyche, and less complex animals such as viruses may be more like higher plants. Furthermore, not all monarchies have the same degree of soul, the same strength of psyche. If they are monarchies, single cells probably have less soul - less strength of psyche - than multi-celled animals, and multi-celled animals with relatively simple nervous systems probably have less soul than those with complex nervous systems. Strength of soul is a measure of (1) the extent to which a given occasion of experience in a psychic stream is able to learn from previous experiences, thereby contributing to an ongoing identity over time, and (2) the extent to which, as it occurs, the subjective unity of a presiding experience has greater richness of experience than those of its component parts. On these criteria some organisms may have more soul than others.

It is with the help of this distinction between monarchies and democracies, and the recognition that even among monarchies there are degrees of soul, that the stage is set for the fourth function a theology of nature must accomplish: guidance in distinguishing degrees of intrinsic value, and hence in ranking the interests of organisms.

Degrees of Intrinsic Value

Intrinsic value is the experiential richness and self-concern of an organism. If some organisms have greater intrinsic value than others, it must be because their experiences are richer and their self-concern greater. Do some organisms have greater experiential richness and self-concern than others?

Any answer to this question will be speculative, and it must be posed in humility. Yet speculation is itself required if we are to rank competing interests. If choices must be made between the interests of fungal cells and those of the dogs on whom they feed, or between the interests of malarial mosquitoes and those of the humans on whom they feed, we must try to respect the interests of the organisms with the greatest degree of intrinsic value: that is, with the richest experience and the greatest self-concern.

The only example of degrees of intrinsic value to which we have immediate access are our own lives. We know (1) that some moments of our own experience have greater richness than others; (2) that at some moments we matter more to ourselves than at others; and (3) that, in general, the greater richness of experience we have, or believe we can have, the more we matter to ourselves. Experiential richness and self-concern seem directly proportional. If we are to speculate concerning the degrees of intrinsic value in non-human organisms, we must assume that in other creatures as well, there is a direct correlation between degrees of experiential richness and self-concern, and hence that those creatures that have, or can have, greater degrees of experiential richness also have, or can have, greater self-concern. Then we must seek criteria by which to evaluate richness of experience. And here, our only option is to generalize from criteria discovered in our own experience.

Is such generalization warranted? I believe that it is. Within Christianity the very notion of creation - and the attendant claim that we are, like other animals, fellow creatures of this creation - offers one resource for generalization. Whether understood metaphorically or literally, the second creation story in Genesis suggests that we and our fellow creatures are made from the same earth: "the Lord God formed man of dust from the ground".[13] The idea that we come from a similar substance suggests that we share features in common, among which might be general possibilities for richness of experience.

Adding to biblical perspectives is evolutionary theory with its suggestion that there is an ontological continuity among and between life-forms. On these grounds we rightly surmise that our own lives are instances of, rather than exceptions to, the phenomenon of life as it is found in other creatures. Just as our lives consist of occasions of experience with varying degrees of richness, so must their lives. This is not to deny that there is something distinctively human about human experience, just as there is something distinctively canine about canine

experience, and distinctively cellular about cellular experience. But it is to say that human experience, canine experience, and cellular experience are instances of a similar kind of activity: that of consciously or subconsciously felt interests. And it is to say that amid this activity there is some kind of qualitative enjoyment, some kind of richness. We rightly surmise that the general qualities we find rich are those which, in different ways relative to the species at issue, other organisms find rich.

Let us identify first, then, the qualities we find rich. They are harmony and intensity. Each are affective tones qualifying our act of experiencing - that is, taking into account - influences from other beings. Harmony is a general feeling of attunement, balance, accord, and affinity. For us harmony often includes the attunement of our psyches with our bodies, or physical health. Amid such harmony, the "other beings" in relation to which harmony is felt are cells, tissues, organs, and limbs. Whether or not we enjoy health, harmony in human life can also be sought and enjoyed in relations with other people, with fellow creatures, with the world of ideas, and with God. Compassion, understood as sharing in the joys and sufferings of others, is one of the highest forms of harmony enjoyed by humans: a harmony that Christians claim mirrors God's own.

Intensity is zest or energetic vitality in relation to other beings. It is exemplified in feelings of creativity, energy, strength, excitement, enthusiasm, vigour, passion, and potency. In human life intensity has at least two forms: the active vitality of creatively synthesizing environmental, social, and historical influences, or the receptive vitality of allowing oneself to be strongly affected by such influences. Active vitality includes the joy of artistic creativity and the zest of physical exercise; receptive intensity includes the immediate physical pleasure and the meaning found in allowing oneself to share in the sufferings of others. As the latter example suggests, richness of experience need not be pleasurable in order to be meaningful. Pleasure is one form of richness, but not all richness is pleasureable.

Can these two forms of richness - harmony and intensity - serve as criteria by which we evaluate, albeit speculatively, the richness of experience of other creatures? If divorced from aspects and associations that are uniquely human, and if applied with imagination and tentativeness, they can.

The creatures most distant from us and concerning which our speculations will have to be the most tentative are those molecular, atomic, and subatomic energy-pulsations composing inorganic matter. We cannot know with assurance, but we can at least speculate, that in being drawn toward stable configurations, energy-events are drawn toward certain forms of subconscious harmony. Perhaps stability as observed from the outside is harmony as lived from the inside. And again we cannot know, but we can at least conjecture, that these harmonies are imbued with powerful intensities, as is evident from the release of energy when stable energy configurations are disrupted. No doubt these forms of richness would be subsconscious and quite different from anything we know. Nevertheless, they would be primitive instances of what, later, we call richness of experience.

If in fact even inorganic realities enjoy certain forms of harmony and

intensity, the moral stakes of this fact are not high. There is no evidence that the interests of inorganic materials at a submicroscopic level can be violated by human manipulation. This means that for the most part inorganic materials can be treated as instruments for the well-being of plants and animals, humans included. The "land ethic" of which Aldo Leopold spoke, and which has fittingly captured the imaginations of so many in the environmental movement in the West, has its justification in a "life-ethic", because land - understood broadly to include ocean and air as well as solid ground - is the habitat of life.[14] We work to protect the earth's lands, oceans, and atmosphere, not because the interests of these inorganic materials can be violated, but because living beings depend on them.

Though a land ethic has its value in serving a life ethic, speculations concerning the aliveness of "dead matter" are important because they help Christians to more deeply affirm the goodness of the earth from which, after all, life itself emerged, and on which life depends. In addition, such speculations allow Christians to learn from other religious traditions - Asian, African, and American Indian, for example - in which, implicitly if not explicitly, the aliveness of nature has been recognized and appreciated.

Somewhat closer to what we know as humans but still requiring much tentativeness, are living cells existing in or outside the bodies of both plants and animals. Here the intuitions of a contemporary physician/writer such as Lewis Thomas in The Lives of a Cell can be helpful. Realizing that cells in our bodies have lives of their own, Thomas writes: "I like to think that they work in my interest, that each breath they draw for me, but perhaps it is they who walk through the local park in the early morning, sensing my senses, listening to my music, and thinking my thoughts".[15] Here Thomas recognizes, like many biologists, that living cells seem able to take into account influences from their environments, and that, in so doing, they are drawn toward certain forms of energy exchange and balance. We cannot know, but we can at least speculate, that energy exchange and balance as observed from the outside are intensity and harmony as lived from the inside. As with the energy-pulsations composing inorganic matter, the intensities and harmonies would be subconscious. And yet here, in contrast to energy-pulsations, interests can indeed be violated. Cancer cells seem to have interests in surviving, and we violate these interests when we destroy the cells. The necessity of ranking interests among organisms becomes obvious.

Evolutionarily closer to our experience, and perhaps furthest from sheer speculation, are multi-celled animals with psyches, or monarchies. As indicated in an earlier section, evidence from neurophysiology, biochemistry, anatomy, behaviour, and evolutionary theory shows that such animals have experiences and interests. By the same token we can conjecture that such animals enjoy, and are drawn toward, their own forms of harmony and intensity, either conscious or subconscious. It is not difficult to imagine, for example, that at least subconsciously a butterfly enjoys a harmony of hunger-satiation when it sucks nectar with its proboscis, or that a snake feels a subconscious intensity of physical movement when it strikes at a prey. Nor is it difficult to imagine that fellow mammals feel and enjoy experiential richness: for example, that a cat feels intensity while playing with other cats; that a chimp feels harmony when nursing her young; that a deer feels intensity when running

through a forest; that a dog feels harmony when satisfied by a meal. There is no need to say that such harmonies and intensities entirely transcend genetic influence, or that they are divorced from bodily needs. On the contrary, opportunities for experiential richness may well be conditioned by genes and meet physical needs. But such physical grounding does not obviate the fact that these qualities of experience are enjoyed by the animal from its own perspective. Physically-based or not, harmony and intensity seem to be the qualities desired, not simply by us, but by those fellow creatures closest to us.

With these speculative assumptions concerning living cells and multi-celled organisms, we approach a basis upon which we can distinguish degrees of intrinsic value. If we assume a direct correlation between experiential richness and self-concern, organisms that on balance can enjoy greater degrees of harmony and intensity than those with which they are compared will have greater intrinsic value. When we must rank interests, we can do so on the basis of such differences.

But this, of course, is theoretical. How can we decide in fact which organisms have greater intrinsic value. Here, again, we must generalize from human experience. We know that we are psyches supported by bodies, that some of our own experiences are richer than others, and that complex nervous systems are required for at least the kinds of richness and experience that we find most valuable. While some may propose that energy-quanta or living cells enjoy forms of harmony and intensity that are equally if not more valuable than our own, we have no evidence for or against the claim. Lacking such evidence, and given the need for judgement in deciding which lives must be respected in cases of incompatible interests, we must act on the basis of what we do know from human experience. We can make concrete decisions on the basis of two assumptions: (1) that animals with psyches, or monarchies, are able to enjoy greater degrees of experiential richness and self-concern than are organisms without psyches, or democracies, and (2) that monarchies with more complex nervous systems are able to enjoy greater degrees of experiential richness and self-concern than those with simpler nervous systems. The first assumption implies that a dog has greater intrinsic value than a fungus, and the second that the dog has greater intrinsic value than the tick.

Concerning these conclusions, however, two words of caution are in order. First, all creatures, organic or inorganic, have some degree of intrinsic value. In a biocentric ethic, the spirit of land, water, and air - and that of single-celled organisms and plants - should be respected. Focussed as it is on living beings, a biocentric ethic can and should be informed by an appreciation of the goodness of all creation.

Second, even when living beings are ranked in terms of their intrinsic value, it should be recognized that, from the non-human creature's own point of view, its own value is not less than those of other creatures whom we deem more valuable. As the tick invades the dog, it does not deem itself less worthy of survival than the dog. While in fact its life may matter less to it than does that of the dog to the dog, and its subconscious experiences may be less rich than that of the dog, it does not know this. A tick does not rank itself.

This truth must itself be internalized if humans attempting to practice a biocentric ethic are to avoid arrogance as we rank interests. The need

for judgement on the basis of degrees of value must be complemented by reverence for life, and this reverence must itself involve empathy for organisms on their own terms. As Christians seek to embody such reverence, they can well be informed by a biocentric understanding of God and Christ. Process theology, from which I have drawn previous sections and will draw in the following section, offers a promising possibility for such understanding.

IV. God and Christ

The practice of empathy can be fostered if it is recognized that such empathy has a cosmic counterpart in God. This is to say that there is an ultimate point of view - a divine perspective - in which each creature is appreciated on its own terms and loved for its own sake. Creatures with lesser intrinsic value may or may not contribute less to the divine perspective than creatures with greater value; in any case they are not loved less. From a biocentric perspective, God loves all creatures on their terms and for their own sakes: the living cell, the dolphin, the mosquito, and the human.

To speak of God as having a point of view is to speak of God biblically. It is to think of God as a subject, a divine Thou. While this way of thinking may sound anthropomorphic, it is perhaps better called biomorphic, for it takes its way of thinking about God from the phenomenon of embodied life. As a subject, God can be conceived as a Psyche or Soul whose very body is the universe itself.[16] This would mean that creatures in the universe are to God as cells in a body are to its Psyche. Just as a Psyche empathizes with its bodily happenings, such that what happens in the body happens in it: so God empathizes with creatures, such that what happens in their lives happens in God.

To conceive of God as the soul of the universe is not monistic. It is not to say that the universe is a manifestation or emanation of God, as if worldly creatures - human and non-human - lacked creative autonomy in their own right. Nor is this way of conceiving God pantheistic. It is not to say that God lacks creative autonomy in God's own right, as if God were identical to the universe. Rather it is panentheistic. The idea that God is the soul of the universe implies that the universe is in God's life, even though God is more than the universe. This means that in their inward feelings and outward activities, human and non-human creatures can contribute to, and in any case affect, a divine Psyche, who in turn influences them. Christians of a biocentric orientation can rightly imagine that the universe itself is a monarchy not a democracy, and that its ruler, its presiding subject, is God.

For many today, of course, the model of God as "king" of the universe is problematic. To think of God as "king" or "male ruler" suggests a patriarchal perspective that denies God tenderness and relationality, and that denies women their own capacity to share in the divine image. For many today, the idea that God is the soul of the universe is better captured by metaphors that employ alternative imagery: metaphors such as God the Mother or God the Friend. What is important for biocentric Christians to recognize is that God, whatever metaphors are used, is a living subject.

If God is a subject, then God, too, has experiences and interests.

Indeed God can be seen as the inclusive realization of intrinsic value: that Living Subject in whose Harmony and Intensity all other instances of harmony and intensity are felt, appreciated, synthesized, and preserved. We learn from numerous strands of the Christian and Jewish traditions that God's own "richness of experience" is unbounded love, or what the Jewish thinker Abraham Heschel calls "pathos". This suggests that divine experiences are acts of intense empathy with each and every creature relative to the situation in which the creature finds itself, and that interests involve the nurturing of creaturely well-being relative to the type of creature at issue and to the situation in hand.

But how does this nurturing occur? One option is to conceive it on the analogy of unilateral control, in which an agent modifies the behaviour of another through the exercise of sheer manipulation. This way of conceiving divine influence is particularly problematic given the reality of natural and moral evil. A God who influences, or could influence, the world through the exercise of unilateral control is a God whose morality is questionable. As Elie Wiesel and others have shown, this is a God who could and should have prevented the Holocaust and its many human equivalents on earth.[17] It is a God who remained silent when prayers for benevolent intervention were issued from Auschwitz. Moreover, those sensitive to the pain and suffering of non-human creatures can add that this is a God who must be held accountable for all the violence, all the waste, all the dead ends of evolution itself. For many today, a God who in the face of suffering is capable of unilateral intervention, and who does not exercise his coercive power, is not all-loving. This God does not nurture.

There is an option to this way of thinking. By the example of Jesus, Christians know that divine power can take the form, and perhaps always takes the form, of a "coming Kingdom". The God to whom Jesus points is active in the world as a pull from ahead rather than a push from behind, as the beckoning of a not-yet realized future rather than the compulsion of an already-determined past, as the promise of goals rather than the brute force of goads. God's influence in the world is - and perhaps always has been, even into the recesses of a beginningless cosmic past - bilateral rather than unilateral, invitational rather than autocratic. Process theologians propose that this is the only kind of power God has. It comes from the future, and it requires creaturely response for its own completion.

As Jesus' act of healing and forgiveness make clear, the coming Kingdom is at least partially here-and-now. Furthermore, that state-of-affairs toward which God beckons through the gift of the Kingdom is relative to the person beckoned. In any given situation in the life of a given human being there is a possibility for responding to that situation in a way that promises maximum richness of experience, maximum harmony and intensity. This possibility is the coming of the Kingdom as potentially realizable in the present. It arrives from the future as an aim to be realized in the here-and-now. At a particular moment in a given person's life, for example, the coming Kingdom may be a possibility for selling one's possessions and giving to the poor, or for forgiving another from whom one is alienated, or for asserting oneself when one has lacked confidence, or for seeking the truth. In many situations, the coming Kingdom is a possibility for peace, joy, and compassion. But sometimes it is simply for the best given the impasse at hand. It takes the form of sheer possibility to survive. It is what earlier was called a

physical purpose: a dimly-felt goal to have hunger satisfied or to find warmth when it is cold. Whenever we help others to survive, we help bring forth the Kingdom.

Biocentric Christians can rightly imagine that in the non-human world, too, God is at work as an ever-adaptive, ever-arriving Kingdom. Through divinely-given purposes appropriated by creatures as aims to survive, evolution itself has been, and is being, inspired. As the fox chases the rabbit, God is at work in each, and on the side of both. It is not as if everything that has happened in evolution has been an unfolding of divine will. Rather it is that gradually, relative to each and every creature, and relative to what is possible in situations at hand, God has beckoned the world - and still beckons the world - toward forms of life that can enjoy forms of intrinsic value. With the emergence of evolutionarily complex creatures such as ourselves, divinely-donated possibilities move far beyond aims for survival. They are for what the Gospel of John calls "abundant life". Even for non-human animals, however, there may be forms of abundant living. Higher animals seem beckoned by their futures, not simply to survive, but to survive with some degree of satisfaction. Whenever we help fellow creatures to live according to their natures, we help bring forth the Kingdom.

Our frustration, of course, is that we must so often choose between creatures. As the example of the fox and the rabbit makes clear, this may be divine frustration as well. If God is on the side of the rabbit and the fox, the will of God must itself be thwarted, and not simply by humans. It is not that the fox should be blamed for chasing the rabbit, or that the rabbit should be blamed for not sacrificing itself to the fox, but rather that creation itself is riddled with competing interests and ambiguity. Life is robbery. This is a terrestrial fact for which God may or may not be responsible, but with which, in life as we know it, God must work. In affairs in and between humans we rightly work to overcome such competition; we rightly strive for a state of affairs in which life can be enjoyed without robbery. This we take to be God's call for us. But nothing we do can offset the countless instances of pain and suffering undergone in the wild by non-human creatures. It is at this point that an additional Christian theme - Jesus' death on the cross - becomes relevant.

In modern times, the cross has been taken by theologians such as Jurgen Moltmann as an instance of, and symbol for, divine suffering.[18] To see the pain of Jesus on the cross is to see the pain of God on the cross, and then to recognize that wherever there is such pain, there is divine pain. Biocentric Christians can agree with Moltmann, and then emphasize that God shares in any and every instance of suffering, human or non-human. This means that every instance of pain in the animal world, whether caused by humans or caused by other creatures, is God's pain; that every struggle to survive is God's struggle; and that every death is God's death. It also means that every enjoyment of harmony and intensity - every realization of creaturely potential - is God's enjoyment. The cross reiterates the fact that God is emphathetic and relational, that what happens in the world happens in God.

But of course a proclamation of God's suffering is not enough. It does not bring with it that hope which is essential to Christian existence. It is only the resurrection, first of Jesus, and finally of all creatures, that brings with it such hope. The resurrection of the dead

can itself be understood as "the coming Kingdom", not as partially realized here-and-now, but as ultimately realized in a different dimension of existence than that which we now know, a dimension that is somehow - in a way that remains mysterious to us - transformed into the eternity of God's own life.

The New Testament shows that this coming Kingdom is to be shared by non-human creatures. We know that Jesus taught the Kingdom of God, and that for him the Kingdom represented the hopes and dreams of the people of Israel. We also know that the depth and breadth of this hoped-for Kingdom, whether glimpsed or not by Jesus, was extended by Paul to include not only other people but the entirety of creation. Christians adopting a biocentric ethic can rightly share in Jesus' hope as extended by Paul. We can hope that in some way, not fully understood in the present, the interests of all living beings will be realized in communion one with the other. To risk this hope is not to say that in some way the tragedies of the past can be erased; rather it is to hope that the lives who underwent those tragedies, human and non-human, are allowed to continue after death, such that with the help of divine influence growth toward the fulfillment of aims can occur. On this Heino Falcke, a theologian and pastor from the German Democratic Republic, is correct. The integrity of creation must refer, not simply to the intrinsic value of creatures as they exist in the present, but to a value that we hope they realize in the future. As Falcke puts it: "Integrity is to be understood as that towards which everything was created and <u>into</u> which everything is to be transformed."[19]

In conclusion, practising a biocentric ethic involves reverence for all living beings in the present and hope for their ultimate fulfillment in the future. This hope for ultimate fulfillment <u>can</u> function to undermine any sense of urgency in the present. If it does, the hope itself should be abandoned. But it need not function in this way. Rather it can underscore the importance of each and every living creature for its own sake and for God's sake. To say that each and every living creature is important for its own sake is to say it has intrinsic value. Intrinsic value is itself the value a creature has in itself and for itself. To say that each and every creature has value for God's sake, too, is to say that a living being's intrinsic value is recogized and appreciated by God, that God's own life is enriched by the value of each creature, and that from God's perspective each creature is important enough to be redeemed. A recognition of God's love for each creature, and of God's hope for each creature, can itself promote that reverence for life which is so necessary for contemporary Christian existence.

NOTES

1. Norman Myers "The Environmental Crisis: How Big, How Important?" <u>Report and Background Papers of the Meeting of the Working Group Potsdam, GDR, July 1986</u>. (WCC Press), p.102. Myers is the author of numerous works on ecology, including <u>The Sinking Ark</u>,(Oxford, 1979), <u>A Wealth of Wild Species</u> (Westview Press, Boulder, Colorado, 1984), <u>The Primary Source</u> (W.W. Norton, London, 1984), <u>Gaia: An Atlas of Planet Management</u> (Pan Books), London, 1985), and <u>The U.S. Stake in the Global Environment</u> (World Resources Institute, Washington D.C. 1986).

2. Ibid. p. 106

3. Bernard E. Rollin, Animal Rights and Human Morality (Buffalo, New York; Prometheus Books, 1981).

4. Ibid. p.41

5. Ibid.

6. Ibid.

7. Ibid.

8. Ibid.

9. At the forefront of this field is a Professor Emeritus from Rockefeller University in New York, Donald R. Griffin, whose books The Question of Animal Awareness: Evolutionary Continuity of Mental Experience and Animal Thinking have had, in the words of one reviewer, "an immediate influence on practicing ethologists and behavioural ecologists, expanding the speculative boundaries of these fields". Donald R. Griffin, The Concept of Animal Awareness (New York: Rockefeller University Press, 1981); Animal Thinking (Cambridge: Harvard University Press, 1984). The reviewer is David Abram in Orion (Vol.4, No.4), p.56.

10. For historical influences on the dep ecology movement, see Bill Devall, "The Deep Ecology Movement", Natural Resources Journal 20 (1980): 298-322. The phrase "deep ecology" comes from one of the founders of the movement, the Norwegian philosopher Arne Naess. See Arne Naess, "The Shallow and the Deep, Long-Range Ecology Movement", Inquiry 16 (1973).

11. The cells in the dog's body, too, might be monarchies, albeit of a primitive kind because of the simpler nature of a cell's nervous system. Amid their complexity they exhibit a capacity for unified response which suggests that they have reality for themselves as well as reality for others. They, too, have some degree of intrinsic value as psyches. A dog is a monarchy of monarchies. Indeed, even the organelles whithin these cells might be monarchies; for they, too, exhibit a capacity for unified response that suggests subjective unity in its own right. But here monarchical forms of organization probably stop. The molecules of which these organelles are composed are probably democracies, as are the atoms composing these molecules, for molecules and atoms seem to lack subjective centres, even though the energy-events composing them exhibit small degrees of subjective responsiveness. As a psychophysical organism, then, the dog can be conceived as a monarchy of cellular monarchies, each of which are themselves monarchies of organellic monarchies, which are themselves monarchies of democratically--organized subcellular parts.

12. Cobb and Griffin, Process Theology: An Introductory Exposition, p.78.

13. Genesis 2:7.

14. Aldo Leopold, A Sand County Almanac (New York: Oxford University Press, 1949).

15. Lewis Thomas The Lives of a Cell: Notes of a Biology Watcher (New York: Viking Press, 1974), p.4.

16. For an elaboration of this metaphor, see Grace Jantzen God's World, God's Body (Philadelphia: Westminster Press, 1984).

17. Elie Wiesel, The Trial of God, trans. Marion Wiesel (New York: Random House, 1976).

18. Jurgen Moltmann, The Crucified God (New York: Harper and Row, 1973) pp. 270-278.

19. Heino Falcke, "The 'Integrity of Creation' in the Current Ecumenical Debate", Report and Background Papers of the Meeting of the Working Group Potsdam, GDR, July 1986, (WCC Press), p.57.

A CHRISTIAN ALTERNATIVE TO "DOMINION OVER NATURE"

Freda Rajotte

The roots of our present ecological crisis lie in the philosophic and religious principles, beliefs and attitudes which underlie Western industrial society. The expression of wonder at the majesty of creation and the insignificance of man expressed by the psalmist (Ps. 8:3, "When I look at thy heavens - the moon and the stars - what is man") rapidly gives way to an arrogant claim of dominance (Ps. 8:6, "Thou has given him dominion over the works of Thy hands...").

The subjection and exploitation of nature and the "ascent of man"[1] have been the prevailing views of Western civilization during the entire Judaeo-Christian era. This perspective has simultaneously brought Western technological nations to world ascendancy and the global ecosystem and the poor of the Third World to the brink of disaster. The need for re-evaluating the basic philosophical and theological world-view is urgent.

Either the life and work of Jesus relates to the most pressing world issues of injustice, poverty and environmental abuse or the Christian faith is irrelevant. If there is no connection between the two then instead of a living faith giving spiritual power and offering hope and redemption, Christianity would be little more than an interesting cultural and historic event.

One must question the concept of "integrity" when applied to the reality of the present world. The biosphere has been progressively altered, exploited, denuded and polluted. Its life forms have been radically altered by over 8,000 years of cultivation and herding, hunting, fishing, gathering and burning. It has been subjected to the increasing power of industrial technology.

"Integrity" in the sense of emancipation, or acknowledgement that nature has a right to exist in its own right, for its own sake, outside of its utility to mankind is not possible, as homo sapiens is an integral part of the unity - the Gestalt - of the ecosphere. By "integrity" can be implied a radical shift in attitude from "dominance over" to "co-existence within" and a re-sacralization of the world in its entirety and complexity.

The term "creation" also requires definition. If the term means everything that might, or could exist, its full extent is not yet known to scientists whose knowledge is bounded at present by the singularity of the time-space of the cosmos. However, the term "creation" signifies more than detailed acknowledgement from astronomy, physics and biology - it implies a spiritual affirmation of meaning.

Arguments based on a mystical experience of unity between mankind and nature are unlikely to impress government and corporate executives concerned with: "development", GNP, profit, employment and social welfare. It is essential to have sound ecological facts to demonstrate that present human activities are destroying the life-sustaining

planetary system of the biosphere.

There is danger of oversimplifying both the complexity of the problem and the solutions that are being sought. The immediate and interrelated causes include: human population growth, urbanization, rising expectations, industrialization, pollution, resource consumption, consumerism, inequality, sexism, poverty and war. Underlying all of these factors is a complex of attitudes that forms the self-reinforcing ethical milieu of Western industrial society.

The entire Western industrial perspective and outlook has been moulded by Judaeo-Christian classical theology drawing on its roots in Greek philosophy and in Hebrew law. Greek philosophy viewed the world as a hierarchy of mind over matter; a noumenal world of mind reigning over a phenomenal world of material existence. While, in Hebrew law, God was seen as a great patriarch, who created the world as "his" handicraft and was a cosmic moralist and controlling power who ruled and reigned as supreme master.

Greek dualism and the arrogance of Judaeo-Christian anthropocentricism led to the development of a scientific outlook and to the application of progressively more powerful technology. This enabled the privileged and powerful to free themselves from dependence upon the cycles of nature and continue to increasingly control and subjugate it, while using the accumulating economic wealth and technical knowledge to politically conquer and economically exploit the rest of humanity.

Christian theological justification for environmental subjection generally begins with the interpretation of the Genesis creation narratives, in which man sees himself as being given dominion over nature and being made in the image of God. Man becomes co-creator with God, and thus sees it as a divinely ordained duty to apply the alliance of science and technology in altering the earth to his own requirements. A patriarchal deity as creator implied the desacralization of nature and rejection of the earth as a fertile, spiritual power, giving and sustaining life.

Max Weber detailed how Protestant theology and the "work ethic" reinforced capitalism and industrial development. Right living and hard effort would be rewarded by worldly success, capital accumulation and industrial growth. From this attitude the "resource ethic" was born, which evaluated the entire biosphere in terms of its utility to mankind. Nothing retained an intrinsic right to exist in itself. All was classifiable as resource, potential resources, or trash to be discarded. Even people were viewed not as an end, but as a factor of production. People viewed as "units" of labour or "human resources" can be evaluated on the basis of their productivity and exploited. The young, fit, educated male, with marketable skills (a privileged élite) are rewarded with economic abundance, the remainder left as the "reserve army"[2] of the unemployed and "the wretched of the earth."[3]

Capital, human labour and land, together with the biotic communities existing on it, were monetized and became "property", and "factors of production." The real estate term "highest and best use" implied "most profitable", i.e., most intensive use. This automatically designated wilderness land not in human use as valueless.

Meanwhile, the experiences of colonists in the New World were to add new mythologies to reinforce these views. Explorers discovered "a planet for the taking" (Suzuki)[4] which yielded rich rewards for those who like the whalers and timber barons, could find and seize the most. The myth of the limitless frontier foresaw no end to wildlife, forest and soil, and the pioneer philosophy perceived nature to be a challenge to be conquered.

The obsessive pursuit of growth and profit took on new dimensions in the nineteenth century, when the motto, "survival of the fittest", first coined by Herbert Spencer, became warped by entrepreneurs to justify ruthless exploitation of both labour and environment. The "commons", or those things held to belong to mankind (or to the planet) as a whole, such as air, ground water, rivers, fish, could be taken without payment - the "free lunch" had arrived. The costs of pollution, nuisance and ugliness could be classified as "externalities" and left to accrue to the public and to future generations. The problems of cumulative toxicity, acid rain, radioactivity, etc., are incremental, and so could be disregarded with impunity, the sources hard to trace.

This view of life as a contest, where "the race goes to the swift" and success to the ruthless who can defend their own, found a sexual expression in the mythologies of Superman, Rambo, and Star Wars. The great warrior was rewarded with laurels for killing, the great hunter with trophies for decimating the world's wildlife. "Gator wrestling" and bull-fighting are a demonstration of machismo.

The ostentatious use of exotic and rare furs, ostrich plumes, snakeskins, etc., in women's fashions demonstrates successful femininity. It makes a statement of being attractive enough to be provided for. As L. Rubinoff suggests, "The appropriation of nature has become a substitute for caring. Deprived of the security that comes from caring, we seek the surrogate security that power makes possible...the craving for luxury and affluence."[5]

In a world that is ultimately finite, growth in any one area causes diminution elsewhere. Thus wealth and poverty, profit and exploitation are inseparably linked.

Having acknowledged that the theological and philosophical roots of our environmental crisis are vastly complex and appear to act symbiotically, it should be expected that any basis for a conversion towards a resacralization of nature must be equally complex.

On the one hand are the "shallow stream" ecology movements. These include concepts of management, resource conservation, pollution control, sustained yield, reforestation, etc. They attempt to deal with the immediate ecological crisis in the hope of insuring that the biosphere remains self-sustaining for future generations.

On the other hand, "deep stream" philosophies examine the philosophical foundations underlying the present world systems and suggest radical changes in attitude.

Among the first group we may place the following: The "band-aid" technological fix, that uses "experts" and "technicians" to "solve" each problem as it arises, ideas of stewardship and trusteeship, such as Kim Yong-Bok's concept of "minjung" or people as gardeners; the substitution

of a Noah mythology to replace the Genesis creation mythology; Meadow's and Aurelio Pechelli's proposal (Club of Rome) of a steady state of "no growth" of population and industrialization, as an alternative to the demonstrably catastrophic consequences of continued exponential growth. Schleirmacher suggested that a viable alternative to the destructiveness of massive development projects, (forced upon powerless indigenous peoples and ecosystems), would be the use of appropriate technology, small scale and decentralized development projects, involving participatory democracy.

In considering the "deep stream" paradigms, all assume the interdependent and unified nature of the planet. Studies move away from the reductionism of the nineteenth century towards holism. Anthropocentricism is replaced by ecological egalitarianism, in which each species and each individual organism is seen to have its own niche and is necessary to the well-being of the whole ecosystem. The space-ship metaphor implies the earth viewed from space, appearing as an ecosphere, or living sphere, constituted of an interrelated web of biotic and non-biotic components. The total inological being of the blue planet may be perceived as the spatial and social home of all species: the place in which all belong and in the context of which all are defined. The ecosphere may also be viewed as composed of interacting component systems, closed systems in the case of synergy, open systems when including solar energy and cosmology. Geographers study the interface between natural systems (of atmosphere, lithosphere, hydrosphere and biosphere) and human systems (such as economic, political, social systems, etc.).

In another group of paradigms the entire biotic envelope is perceived as forming a living being. The ecosphere is a biological unity, a single living whole, in which no one thing is ultimately separate from any other thing. Suggested by Plato, the concept re-emerges in James Lovelock's Gaia hypothesis. Many see such an earth as Mother, as a life-giving and nurturing power. Plato, in the "Timaeus", likened the whole earth to an animal comprehending within itself all other animals, its shape was round and its soul, which permeated the corporal being of the universe, was female. This concept finds welcome recognition in the spirituality of Canada's indigenous nations (native peoples) who speak of Mother Earth, or in the "Natura" of the Twelfth Century Cathedral School of Chartres.

The philosophical and theological implications of some of the new scientific insights into the nature of terrestrial ecosystem are staggering. The anthropocentric God of medieval theologians has been marginalized to the vanishing point.

The expulsion of homo sapiens from the self-assumed position in the centre of creation owes much to Copernicus and Darwin. Although more cut down to size, man could still claim special status at the apex of a natural order uniquely designed to meet his requirements. Paley's arguments for a divine watchmaker collapse when, in one of life's great self-referential loops, living organisms, and the atmospheric and terrestrial environment to sustain them, are seen as orginating together, and being interdependent.

The unity of the ecosphere is profound. Both matter and energy are indestructible. Some of the atoms constituting each person may have once been part of Hitler, Christ, and Mohammed, and all originated in the

stellar matter of the big bang.

The uniqueness of human life has also been refuted by biological studies that reveal all living forms as aggregates of dynamic microbial life, each individual the result of the symbiotic merger of bacteria that form a single planetary life pool (Margulis and Sagan).[6] As all the world's bacteria have access to a single gene pool and hence have access to the adaptive mechanisms of the entire bacterial kingdom, human DNA is derived in unbroken sequence from the earliest cells that formed in earth's first warm, shallow seas.

The perspective that emerges is one of human life as part of the global network of life from which individuals emerge and re-emerge: a picture consistent with Bohm's concept of unfoldment from and enfoldment back into implicate order.

Even human claims to privileged position as thinker and observer, and claims to scientific objectivity were swept away by quantum mechanics, a discovery which ended the Greek and Cartesian dualist division between mind and matter. Matter revealed itself as neither simple, nor solid, nor mechanical. A world was revealed in which particles were not even in existence until observed, where they appeared and disappeared in quantum leaps, where an electron can be defined as "not so much a particle as a probablity which sometimes appears as a particle",[7] where "ghost electrons" coexist in a hybrid state of unreality until observed. Science can no longer view the world objectively as the very act of observing changes what is being observed.

Science, losing its position of total objectivity has fallen into subjectivity with religion. The once clearly defined Cartesian separation of mind (as software) and matter (as hardware) has given way to integration into a holistic planetary concept -- the matter-energy-life-thought of being.

In the communication of ideas and knowledge between discrete organisms in space and in time, and in the retrieval of information from the total accumulation or world bank of thought (Chardin's noosphere) mind is dependent on the matter of the brain, on the senses and the media. Matter and thought are not only interrelated but function with the same oscillations of unfoldment and enfoldment throughout existence.

This holistic view of the ecosystem reveals the interdependence of the varied constituent organisms and elements. Nothing can function or live for even an instant without the existence of the rest. The paradigm of the struggle for existence and for success is forced to concede the necessity for co-operation. Each has a vested interest in the health and well-being of the whole. To destroy one part of the ecology, as to exploit and impoverish one group of people, is to diminish all. The economic life of the global marketplace, like the existence of species, changes from a zero-sum game where some win and others lose, to a nonzero-sum game where either all win or all lose together.

Hazel Henderson's counter economy based on cooperation, sharing and community cohesiveness can become a viable reality, in a non-competitive and non-violent society. Social order could change from a hierarchical, pyramidal structure to become an oceanic sphere with each region, group and species free to develop its own potential and to contribute to the

whole.

Previous patterns of autocratic structure and domination are being assessed and judged by world society. Liberation theology and feminist theology re-affirm the worth of individuals, while animal rights and green party movements re-affirm the intrinsic worth of the biosphere.

Theologically, this more holistic and biocentric view of nature has profound consequences. Religion may be viewed as one of life's great self-referential loops: human socio-political organization projecting its structure into an idealized form or model (e.g. the Holy Family, the Heavenly Kingdom), the model then being used both to actualize the ideal and to reinforce and justify the inequitable social structures and authority patterns of the existing system (e.g. nuclear family, divine right of kings).

As society chances slowly from types of patriarchal autocracy towards patterns of participatory democracy, so must our understanding of spirituality change. Exclusionists: have predominated in Christian theology up to the present time, emphasizing the separation and exclusion of human life from nature. These world views have tended to arrogantly view the entire purpose of creation, incarnation and teleology in terms of man. Karl Barth views creation as a mere stage for human activity. P.Teilhard de Chardin both chose man as the centre of his theology and man joined with God in the final omega point. Herbert Richardson foretells an emerging cybernetic system, a man-machine conjunction, while Harvey Cox speaks of planetary urbanization: the triumph of technopolis.

Modern theology is confronted with the insights of ecology and needs to produce an inclusionist theology that recognizes people as within ecology, within, and forming a dynamic part of, the complex interrelationships that make up the ecosphere.

The church has for long acquiesced in the language of domination. The language expressing the relationship between God and people was expressed in terms of a king and subjects, a vertical relationship assuming authority and power and subjection and obedience. John's Gospel suggests a more horizontal relationship. The Divine Word present in permeating and sustaining all creation: the within of the world, the spirit of love, empowering all life. This is no longer a vertical command descending from on high but the self-manifestation of the spirit of creative love that is at work throughout creation.

Freed from the autocratic laws of a hierarchical church, individuals will reflect and make their own ethical decisions, accept responsibility for these decisions, and become mature people, come of age.

Freedom from the exclusionist deity who is over against mankind, permits a return to the "within" of creation. The whole world becomes luminous with divine being in the re-sacralization of nature.

The tremendous diversity of views and theological opinions within the Christian community is one of its great glories and strengths. These views reflect the breadth of cultural, political, economic and social background and the variety of spiritual experience within the Christian community. In a horizontal spirituality each individual will be able to reach out, learning from others' spirituality and views, thus enriching

the whole.

As the old dominion is replaced by a spiritual democracy, Christ is no longer mediated exclusively through church and priesthood, but can be recognized "in his distressing disguise" through impoverished children and women in the Third World, through the dispossessed, exploited, and hungry. His passion is mediated through suffering of the wretched of the earth, the imprisoned, the tortured, the dying.

The barren and denuded land, the polluted rivers and air, can become to us the desecration of the divine source of nutrition for the biosphere, the sacrament of the brokenness and sacrifice of Christ.

As each person's portrait of Jesus ultimately expresses their own normative statement about life's meaning, one of the greatest dangers is for any one view to be declared the "truth". The arrogant attitude that claims dogmatically that any particular formulation of doctrine is "truth" creates two dangers. One danger is that of bigotry, of suppressing opposing views and stifling thinking, research, and the quest for knowledge. The other danger is that it denies others the dignity of recognizing their uniqueness, acknowledging their autonomy, and the validity and value of their spirituality.

Only in the humility of incertitude can we rediscover each other in Community.

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FAITH ON EARTH: CHRISTIAN WITNESS AND THE STUGGLE FOR JUSTICE,PEACE AND THE INTEGRITY OF CREATION

David Trickett

There is growing sentiment worldwide that certain of the gains in ecumenical and interreligious dialogue that have been witnessed over the course of the past several decades must now move from the arena of the seminar participant to that of the larger populace. We have even seen this tendency filtering into mainstream Western Christian theology; no longer can we unquestioningly entertain the notion of theory divorced from practice. Though this development still appears to strike some persons as an inappropriate move, it is in my judgement no less than our coming to grips with elements in our biblical heritage that are conveniently overlooked on far too many occasions. For Christian peoples of faith, a particularly strong formulation of this strand of our common witness is found in the little biblical book attributed to James; there we find clearly asserted the profound insight that unembodied faith is not an option for people of Christian faith. For authentic faithfulness to exist, it must be enfleshed. It is in this context, that of a doctrine of incarnation, that I wish my comments here to be understood.

Only several weeks ago, I was in the middle east. There, entirely by chance, I happened upon an ancient structure that had amongst its largely ruined fabric a partly-preserved mosaic. The scene captured by the tiny bits of stone is that of the binding of Isaac. Of all the visual elements that the makers of this mosaic pieced together into a coherent whole, one immediately commanded my attention. The longer I meditated upon it, the more stunning became its potency. At the top of the mosaic, as if from nowhere, the hand of God points to Abraham - and, across the centuries and miles, at all viewers of the sene. An outstretched finger seems to pose a question that comes to us with especial urgency even now: "Well? What are you going to do about the situation you are in?" It is this kind of question, and our impassioned engagement with it, that can assist all of us who, with St. Paul (especially in the eighth chapter of Romans) and a host of others through ages, long for life on this planet to be such that we can describe it in part by using words like "justice", "peace", and "the integrity of creation".

Insofar as I understood our mandate here, we are to focus upon two interrelated foci of the present World Council of Churches programmatic emphasis on "justice, peace, and the integrity of creation" (JPIC), namely, "the value of life and a life-centred ethic", on the one hand, and a "theology of nature", on the other. From my perspective, the greatest challenge now facing us is not that of arriving at conceptually intelligible (perhaps even dazzling!) theoretical conclusions, but rather the somewhat sticky - and to the intelligentsia, often a seemingly peripherical (or worse) task of enfleshing those insights in ways that can bear fruit in the lives of women, men, and children, and even communities in all corners of this planet. To be blunt, if our common work remains an elitist endeavour, the hand of God will be pointing at us with a rather harsh judgement. Somehow, we - even those of us who are doctrinal theologians - must also become politicians of a sort; it is our job not only to think, but also to help affect policy.

Even as I say this, however, I must express my grave concern that nearly all of us are likely at or fairly near the edges of some of the more significant discussions of JPIC-related issues. This is both an embarrassment and a challenge for us to improve communications-links and cooperative efforts with others who may seem to be quite outside the normal World Council of Churches orbit. I think, for example, of some national and regional networks of concerned persons, who in various parts of the world have worked for a number of years on the clusters of issues referred to by the shorthand term "JPIC". Other such groups are coming together even as we meet, and yet not much effort seems to be given the implementation of the terribly important (though trendily-termed) "networks" that can penetrate effectively through the numerous respective theological, ideological, cultural and economic enclaves in one or another of which we all tend to spend much of our time. I am particularly troubled that in the rapidly-selling report of the World Commission on Environment and Development there is precious little reference to anyone or anything making any clear religious contribution to the present discussion. This commission, a genuinely international (though, I suggest, elitist) body that has worked for three years, has only in the last few months issued its statement, published in English as Our Common Future.[1] Though I myself recognized nearly a handful of persons or organizations that have or have had connections with the World Council of Churches (and others among us could likely identify even more), given that the commission (WCED) claims that it has received "advice and support from thousands of individuals, institutes and organizations the world over" - and even prints a representatively inclusive list of such contributing parties - the force of my concern remains before us: in precisely which cooperative framework are we wrestling with JPIC-issues?[2]

Just to have the briefest sketch of the WCED report (and to suggest points of convergence with the JPIC process), note the following passages from the document:

> Perhaps our most urgent task today is to persuade nations of the need to return to multilateralism.[3]
>
> We became convinced that major changes were needed, both in attitudes and in the way our societies are organized.[4]
>
> It is impossible to separate economic development issues from environment issues.[5]
>
> Ecology and economy are becoming even more interwoven - locally, regionally, nationally, and globally - into a seamless net of causes and effects.[6]
>
> Painful choices have to be made ... sustainable development must rest on political will.[7]
>
> Utility aside, there are also moral, ethical, cultural, aesthetic, and purely scientific reasons for conserving wild beings.[8]

> All nations will have a role to play in changing trends, and in righting an international economic system that increases rather than decreases inequality, that increases rather than decreases numbers of poor and hungry ... The next few decades are crucial. The time has come to break out of past patterns. Attempts to maintain social and ecological stability through old approaches to development and environmental protection will increase instability. Security must be sought through change.[9]
>
> Every human being - those here and those who are to come - has the right to life, and to a decent life.[10]

In its focus upon population and human resources, food security (including the distribution of foodstuffs) species and ecosystems, energy, industry, and urban resources (including particular attention given human settlements), the WCED seems to be operating on a parallel track to the WCC and its JPIC theme. How, though, might we foster a convergence that is useful for both groups? I am one who is abolutely convinced that we must liaise in direct ways with power-bases in the world community, not always as ally and not always as adversary, but rather as dialogue-partner and fellow-worker for the well-being of this planet and all creatures that dwell upon it. Our witness as a people of faith calls us to embody that faithfulness to the encompassing mystery we have been taught to call God. We are to show faith on earth in part by addressing major public policy issues, not by ourselves but in cooperation with others, some of whom have already been given charge of such matters by other commissioning bodies (such as governments). The fruitfulness of the whole JPIC-emphasis hinges in a significant way upon our response to this point; if we keep our efforts at the level of abstraction (or even action confined to an ecclesial sphere), not only will JPIC become simply another quinquennial (or septennial) programme for study, reflection, and experimentation that is largely impotent, but the World Council of Churches will have forfeited what is surely a prime opportunity to establish (or re-establish) constructive working links with all sorts of persons and organizations, many of them representing the fast-growing segment of the worldwide human family for whom traditionalist religion is increasingly unengaging. (Here is a point of possible convergence between our work and efforts that I very much hope the WCC Commission on World Mission and Evangelism will take up, both prior to and at its San Antonio meeting in 1989).

A major question confronts us at this point: how can communities of faith come to deal with JPIC effectively, in order both to nourish one another and also to engage yet others in the public policy sphere? First of all, we must see that without a doubt the rather fuzzy term "justice, peace, and the integrity of creation", as well as potentially elitist expressions such as "the value of life and life-centred ethic", point to very real, very practical crises in the world abroad - crises from which no human being (or any other creature, for that matter) is exempt. Persons of religious faith from all lands, I submit, have spiritual and other resources that can enable them to make an important contribution to

the resolution of crises alluded to by these touchstone words; but will they? Part of our job here is to see how an affirmative answer might be given this question.

"Experts" have an important role in the entire JPIC process, but as we all know it is in the end persons from among the much larger group of faithful people who must be engaged vitally if any of us is to help affect significant advances in the embodiment of JPIC-faithfulness. We must view the incarnation, the enfleshment, of such faithfulness fundamentally as a matter of pastoral guidance, of nurture. Before such nurture can get very far, however, we had better have a grasp of the vision that underlies the embodiment of faith - or, at least, that is certainly how a Westerner would likely approach the matter at hand. That, in my view, is a prime reason for our having gathered here. According to the traditions I represent, faith is fundamentally an experience of trust and loyalty, issuing in one way or another in individual and corporate actions. Faith has to do with one's vision (or, as some have suggested, audition) of the world and then with one's attempt to live in accord with it (or one's efforts to avoid so living). In a sense, a combination of something like "theory" and "practice" may constitute our very existence as fully functioning faithful human beings.

But life is not so neat as a conceptual scheme; history intervenes. We must take the reality (or at least the quasi-reality of "appearance", depending upon one's tradition) of history into account as we seek to comprehend human faithfulness. There is not one vision of the world that seems to capture the hearts and minds of all peoples. Indeed, part of our difficulty in the religious arena is that certain of us have imposed a vision (and the embodiment thereof) upon others, and those others - now increasingly identified as oppressed peoples - are beginning quite loudly to say that these visions and ways of life simply will not do. The religious world is fragmented and yet fragmenting even as we convene to seek new ways to work together for increased understanding and - we hope - actual lived solidarity with those who have been made less than enthusiastically to endure seemingly countless impositions from some of us. Part of our work here, it would appear, is to move past the sheer recognition of the reality that a wide variety of religious histories makes up the world of religious witness; if JPIC is to take hold in the lives of women, men, and children, we must begin afresh to undertake new levels of dialogue among ourselves and with others not yet part of the formal conversation. We need very much to be less defensive and territorial about the nature of authentic faithfulness than some of us tend to be; we can be wonderfully enriched by one another's ways of seeing and hearing, and concomitant ways of existing, in the world.

With these considerations before us, I make the following suggestions: let us think of "vision" primarily (though not exclusively) in conjunction with our task of reflecting upon a "theology of nature", and of "embodiment" in the context of a "life-centred ethic". An immediate concern we need to have is now, precisely, to grasp the relationship between them. No doubt those of us here have given some time toward the resolution of this query, but it is likely the case that great numbers of people haven't yet done so - perhaps in large part because it may seem to be yet another academic exercise having almost no point of contact with their lives, whether they live in miserable or in very comfortable physical conditions. We must make the connection become existentially gripping, even if not conceptually sophisticated; for how we see the

world affects the way we live. It is as simple (and complex!) as that.

A perennial difficulty arises at this point: how can one draw normative conclusions from what seem to be descriptive assertions about the nature of reality? So far as I can tell, the best way to make progress over against this kind of challenge is by arguing that even the most nearly "descriptive" metaphysic is heavily value-laden. Though one can play wonderful games with words, in the end I am one who claims that - logical status-questions notwithstanding - there is no assertion that a human being can make that isn't significantly shaped by his or her history and all kinds of attendant value-systems. Even those of us who seek to escape our respective histories (whether we be, say, a Karl Barth or the younger Isaiah Berlin or any of countless others) cannot do so altogether; history is part of the warp and woof of the human fabric. So, then, is pluralism, given the numerous histories represented in the global human family. And here's a rub: we must all somehow reach normative judgements, but we don't all arrive at the same ones. How ought we adjudicate the competing claims of histories all about us? Within which community of interpretation can we adequately exercise this critical human function? So far as I see the matter at present, we must do what we can toward this end from within the respective tradition(s) from which we have come in our spiritual pilgrimages. If we do not act in an imperialistic way, we can find our vision and our embodiment greatly strengthened. Indeed, I would actually maintain that we are transformed - an utterly biblical idea, by the way - by our sensitive engagement with persons not only of other Christian traditions apart from our own, but also by our entering into new patterns of relationship with folk who are, for example, Jewish, Muslim, Buddhist, or Hindu. Even as I say this, though, it is my impression that an as-yet somewhat vague ecological motif at the heart of JPIC might allow all of us to move toward one another in such a way as to form a new global matrix of communities of interpretation in which our inherited community distinctions become somewhat blurred. Let us be aware of this possibility as we think for a moment about some issues lying at the heart of the JPIC emphasis.

I take as basically sound this sort of assertion: "We make our way in a world that is not designed simply to suit our sensibilities, and our moral life is primarily a response to the varied pressures of this reality ..."[11] In other words, as human beings we grow up and enter what some might call a "cosmic" conversation that is already in progress; people interact with one another as contemporaries, are affected by their individual and collective pasts, and commune as well with nonhuman parts of the natural order (though, traditionally in the West, we haven't always been self-conscious about this last point). If or when we become critically reflective about this pattern of relationships within which we and all other natural entities exist, we have the core of a basic metaphysical vision. If we attempt to argue for some kind or perduring, comprehensive agency at the centre of things, we may well be on the path toward a theological vision of the natural order.

How far, and in what direction(s), though, can one go in propounding such a vision? My sense is that, though there is clearly no unanimity upon this point, there <u>is</u> a growing common concern (even noted in the report of WCED!) to push <u>the</u> construction of such a vision to the point that it actually affects human conduct in the world. Perhaps because the present age faces possibilities of the foreclosure of <u>all</u> future horizons in ways that earlier times may not have done, our inherited Western hesitation

about slipping back and forth between "fact" and "value" is losing its grip. Even with this obstacle at least diminished in its potency, however, we are not all that far along in knowing just what people from widely divergent histories can together affirm. Nevertheless, there does seem to be a growing witness that many persons from East and West, and from within and outside religious bodies, can likely concur upon this point: a long-standing (and fervently upheld!) conceptual divide between "history" (here, this term is used to signify the range of specifically human experience) and "nature" (here used to characterize everything else in the natural order of things) can no longer be maintained. How to bridge the conceptual gap that some of us have been taught to see between them is still in the process of debate. Some, for example, wish to employ conceptual resources made available to the twentieth-century West by the neoclassical tradition of Whitehead and his train, while others seek to tread other possible paths. From my vantage point, it is signally more important just now to see that "history" and "nature" cannot be separated from one another either in our vision of reality or in our conduct than it is to browbeat about how best to wed them. Let us celebrate this remarkable advance that has come to our awareness only in the last several decades; then let us set about the difficult job of re-integrating what we ought never have divided from one another.

I wish to follow but one strand of the intricate web that constitutes a contemporary ecological vision of the world. Anyone who is aware of the history of reflection upon the physical world knows that to construe it in something resembling what today might be identified as an ecologically sensitive manner is not a new enterprise, but it certainly has been a minority option within Western life and thought. In that setting, before Rachel Carson's Silent Spring appeared a quarter-century ago, how many names could non-specialists recall of folk who wrestled with such a vision of the world? In reasonably quick order, one might mention names such as Francis of Assisi, Albert Schweitzer, and (maybe!) Aldo Leopold. Yet each of these persons, and others who might be named, was likely viewed as an eccentric, at least until being transformed into something of a cult-hero. For many of us, it is only within the past three decades that we have become significantly attuned to the vast scope of the web of relationships within which we all live. Over this very brief span of our most recent history, literature illumining various aspects of ecological understandings of the world has burgeoned. This is not the time nor is it the place to recapitulate the numerous claims that by now scores of authors have put forth; merely to note the diversity of positions represented even in ecologically-sensitive literature (including philosophy and theology) is to sense something of the force of my earlier point about the reality of multiple communities of interpretation with which we must deal.

It does seem worth the time to mention one thing that some of us have finally noted: the matter has now been put with sufficient frequency and (at least accumulative) power that those of us who represent religious traditions can no longer afford to avoid dealing with what it might mean for us to consider with care nonhuman nature, humankind, and the encompassing mystery we call God from a conceptual framework that is clearly ecologically sensitive. Certainly, at a relatively sophisticated level, this has been and is being done; indeed, one of the very best instances of this effort is in my judgement the unpublished work of the late North American, H. Richard Niebuhr (one wishes his son might release these papers so that two of us and Yale University Press might edit and

print them; but that is another story). What lies ahead is the monumental challenge of developing further and conveying such wisdom to the considerably larger audience that JPIC hopes to address.

Since we are presently in a forum sponsored by a fellowship of ecclesial bodies, a certain correlation of ideas may help us move ahead. We remember that there is a relationship between oikos and oikumene; though some of us believe that this consideration has not yet been fully embraced by all member bodies of the World Council of Churches, it is now time to press forcefully the insight that interests some people have in both ecumenism and ecology belong together; they are but two aspects of the same concern - namely, an interest in connectedness. If we allow our very patterns of thought and our lived response thereto to be reshaped in this direction, not only ecumenical work (insofar as it tends to be an intra- and inter-Christian affair) but also interfaith and even radically inter-ideological conversations (beyond the explicitly religious sphere) might be allowed to prosper. A new vision of community might emerge. (Here we can note what ought be a strong link between JPIC and the "unity and renewal" programme of WCC's Unit I). Old terms, such as "common weal", might be given a new invigoration. Those of us who are explicitly theistic folk can go only so far in advancing any wide-scale adoption of a refashioned understanding of God, though, for some of our conversation-partners are not from theistic traditions at all. What we theists can do, however, is to take a leaf from the book of certain of our apophatic forebears and begin allowing (indeed, requiring) talk of "mystery" to creep back into our vocabularies. To do this is more significant than it may seem on first blush, for to recognize the no more than relative adequacy of our conceptual prowess is to take a modest - but crucial - step away from what may well be our species's chief disability: self-worship. This excessive focus upon ourselves can be comprehended by the use of the term "anthropocentrism".

To take the kind of step I have suggested is rather like crossing the Rubicon. As a consolation to those of us who fear that if we were to make such an intellectual (and spiritual!) move the sciences of theology and religious studies would suffer woeful losses against, say, the life sciences, I must offer two words: first, there is considerably more "art" even in the most hard-core of the scientific disciplines than some of us may believe, and second, there are some of us who are not persuaded that in the end constructive theology is best nurtured by its succumbing to an intellectual captivity now widespread in the Western world, a captivity posing as intellectual respectability by holding up as superior to all other models of intelligible discourse something that may indeed be little more than a caricatured vision of "rationality" and "sientific" method. As those of us here know, any number of scientists around the world concur with the major force of this statement, even if they might wish to nuance it differently. Nevertheless, many people (including, from my own area, the so-called "scientific creationists", but also otherwise perfectly respectable theologians, clergy, and laity) have yet to be led to this point in their life-journeys. We need to work with these people. Even to disclose to a wide public the following confession made by a distinguished scientist is to contribute to the process in a constructive way: "every biologist has at some time asked 'what is life?' and none has ever given a satisfactory answer."[12] In the end, there may not be an intellectual loss at all, if we are careful about how we proceed. It is a hope for liberation from human-centredness that can go a long way toward providing men and women from many histories with a new sense of solidarity, both with one another and with the larger natural order of which we are a part.

But how are human beings to be freed from anthropocentrism? This is not a new question; it is fundamentally the ancient religious question of sinfulness and its resolution, cast now from an ecologically-sensitive perspective. It remains a matter of vision and embodiment. In connection with recent contributions toward a fresh nonanthropocentric vision, one can mention works such as Charles Birch and John Cobb's The Liberation of Life (1981), James Gustafson's Ethics from a Theocentric Perspective (1981, 1984), Arthur Peacocke's Creation and the World of Science (1979), and even Jürgen Moltmann's Gifford Lectures, published in English as God in Creation (1985). Though I too shall offer some modest suggestions for refining this vision of reality for those of us connected with ecclesial life, I do so convinced that the major difficulty we all face is the problem of will, the problem of embodying such a vision. At this point, I raise for our consideration these kinds of question: from a Christian perspective, what might it mean to embrace in one's whole life (and not merely in one's thought) some kind of pneumatological doctrine of creation? What are the most fruitful connections between this kind of doctrine and an understanding of the incarnation of God? If we were to think with some of our Orthodox siblings, how most constructively might we affirm the indwelling presence of the divine mystery in the natural order? For Christian communities seeking to embody faith on earth, perhaps a perichoretic notion could be connected with a comprehension not only of what the primal creator, but also of what the whole universe of creatures, is all about; it certainly might prove useful for our ecclesiological reflection. For those of our ecologically-sensitive fellow-workers who are not theists, the dialogue might be carried on in terms of a new social vision using other vocabulary; however we speak, a basic question remains before us: "who is my neighbour?" And a second question is like it: "so what?" (The mosaic description of the hand of God will not leave us alone). We all know that those whom we understand to be neighbours we tend to treat differently (or at least think we should do so) from those we consider to be strangers or aliens.

We must do much better than some of us have done to strengthen the link between explicitly religious and non-religious communities of interpretation. Though this stretches the meaning of a cherished concept, might it not somehow be appropriate to conceive such a pluralistic mix of communities entering into a mutual pact - dare we call it a covenant? - characterized by their joint recognition of "fellowship, of mutual need and mutual interpenetration"?[13] Though we must admit that there is no longer a single full-blown conceptual framework that all of these communities of interpretation can hold, they can nonetheless affirm (in good via negative fashion) that any number of our inherited presumptions about the world and the place of human beings in it just will not do any longer. It is not a terribly long intellectual and spiritual trek from this point, from this sensibility, to the awareness that together broadly representative communities of interpretation have a role in the formation of character that may somehow enrich other communities' lives, and thereby also affect public policy matters. This process of interaction might well be seen as an aspect of one's calling to be a good steward of one's tradition in relationship with other persons from different histories who have the same vocation. It is as if when we begin to see a pattern of interconnectedness among human histories we are led - at least from an ecologically sensitive perspective - to sense a responsibility to undertake dialogue.

Dialogue is much more than talk. Dialogue is in the end (at least if it bears much fruit) a process of the mutual transformation of those seeking to comprehend the other. John Mbiti speaks of this experience when he says that

> dialogue means face-to-face encounter with one's neighbour, in community. But dialogue is difficult, it is painful, it can be embarrassing. Dialogue starts slowly with heads bowed and not with one's eyes locked into another's. Try to focus your eyes in your neighbour's eyes, on the eyes of the person next to you, firmly staring at his or her face, speaking to, laughing with, crying with him or her. This is immensely difficult to sustain for any length of time, because your neighbour is a consuming person, he/she burns your prejudices and fears if you stare too long at him/her. If you start dialogue from the feet and work up to the face-to-face encounter, dialogue will change you: it will burn away barriers, prejudices; it will dispel much of your ignorance concerning your neighbour, it will set you free from your arrogance and self-esteem, it will blow out your narrowness and feelings of superiority or inferiority. It is a big risk to engage in dialogue: as a Christian it will give you another theological face.[14]

A new theological face! Let us briefly explore some of its more interesting features, given our present setting within the JPIC-context.

If we press the dialogic process far enough, it will lead us well beyond words; indeed, it can enable us in fresh and quite practical ways to confront that ancient question, "who is my neighbour?" The bounds of neighbourliness can well be extended, I should think, at least (to some degree) throughout the sentient realm of existence. It is the case that some persons in the world today would argue that our sense of accountability in a vast social context ought not stop at this point; even seemingly (or even actually) non-feeling entities are to be given standing of a sort.[15] Now just how to embody this breadth of vision is a challenge; it is well worth our while to attend to this matter, especially since some of us are championing (under the aegis of JPIC) at least a "life-centred ethic". Just as we criticize anthropocentrism, ought we not be very clear about the possibility of unduly limited vision in a "biocentric" perspective as well? We ought not be careless in our use of words; they affect our stewardship, our course of discipleship. When we say (as some of us are wont) that a challenge given us by JPIC is to embrace the world in a renewed (or is it a new?) way, <u>which</u> "world" do we mean? The "living" world only? Clearly not; but how, exactly, do we differentiate our treatment of what to us seem "non-living" entities from the way we deal with "living" beings? How far can we push the "sentience"-criterion as an unassailable norm of adjudication?

My own religious heritage attests to the importance of a certain kind of spiritual discipline that might be called the "holy living" (and "holy dying") tradition. Though many mainstream Anglican-Wesleyans have effectively left behind any fervor for the "holiness"-emphasis in our collective past, religious bodies that came into existence at least in part in order to protest what their members believed to be the abandonment of a vital aspect of Christian witness can help some of us recover something of a vision of the sacral status of creation. I suggest that we need this kind of spiritual recovery today. Certain strains of Orthodoxy powerfully manifest this perspective as well. What might it mean if we were to commend to the worldwide Christian body not some kind of lofty theological statement which could be appropriately received, studied, responded to, and the like, by professional theologians, but rather the idea that we all are emboldened to seek to embody what for some will seem to be a new ecclesiological model: that of a diverse-yet-one global body that has as its heart a sense of real communion - not merely in a liturgical and sacramental (in the narrower sense of the term) moment of our common life, but also in terms of lived network of holiness, of responsible discipleship in our dealings with all aspects of the natural order. Such accountability in our every facet of selfhood-in-community might prove to be a potent practical way to link together our concerns here, namely, a theological understanding of the natural world and an ecologically-sensitive ethic. Together, perhaps aided by a contemporary interpretation of the biblical imagery of I Corinthians 12, the churches of the world might find in JPIC a programmatic stimulus that can lead them to reach out to one another and to other human communities of interpretation; a deeper, richer spiritual life for all peoples of the world could become more than a dream.

We must continue to press forward in our reflection upon combinations of ideas, such as the integrity of creation and the kingdom of God; mission, dialogue, and unity; accountability for pilgrims who struggle for JPIC; and the like. Many of the things I have said here will need considerable development as our involvement with each other and with the JPIC process grows deeper. There is no question but that intellectual, spiritual, political, and economic difficulties lie ahead. I hope that we might be comforted somewhat on the way, however, by taking to heart this observation made some sixty years ago by one of our forebears in this whole enterprise. It is to be comprehended in the context of a discussion arguing that it is the place, the calling, of human beings to wander, to be involved in adventure and risk:

> Physical wandering is still important, but greater still is the power of man's spiritual adventures - adventures of thought, adventures of passionate feeling, adventures of aesthetic experience. A diversification among human communities is essential for the provision of the incentive and material for the Odyssey of the human spirit. Other nations of different habits are not enemies: they are godsends. Men require of their neighbours something sufficiently akin to be understood, something sufficiently different to provoke attention, and something great enough to command admiration. We must not expect, however, all the virtues. We should even be satisfied

> if there is something odd enough to be interesting ... It is the business of the future to be dangerous ... In the immediate future there will be less security than in the immediate past, less stability.[16]

Despite the uncertainties facing human beings and the rest of this planet, we need to see that we have already experienced a relative advance; a growing number of us sense, for example, that anthropocentrism is a real problem both in theory and in practice, and that different kinds of community of interpretation may be able to struggle in solidarity with one another to be freed from its grip upon us. Just how far our respective communal conceptual apparatus will shift toward convergence or consensus on many more focused issues remains to be seen, though, as does our sense of how fully we can actually embrace one another as siblings. But it remains the case that some of us from quite different traditions can now speak together - not in isolation - to bemoan our continued divisions (even as we give thanks for our respective distinctiveness!), and we can now work collegially to see how, as a renewed global human community, we might appropriately attempt to embody faith on earth. Though most of us may never have heard the names of many of the women and men who have preceded us in this long journey, others of us feel in our midst the witness of one such as W. R. Inge, almost whispering to spur us on: "It may be a long time yet before it is realised that any philosophical or religious theory which separates man from nature - which draws an impassable line anywhere across the field of experience, whether the line be drawn at self-consciousness or consciousness or anywhere else - is untenable." It is our earnest hope, our prayer, that that time passes soon.

Notes

1. Oxford University Press , 1987.

2. Ibid., p. 363.

3. Ibid., p. x.

4. Ibid., p. xiii.

5. Ibid., p. 3

6. Ibid., p. 5

7. Ibid., p. 9

8. Ibid., p. 13.

9. Ibid., p. 22.

10. Ibid., p. 41

11. Robin Lovin, "Cosmogony, Contrivance, and Ethical Order," in Robin W. Lovin and Frank E. Reynolds, eds., Cosmogony and Ethical Order: New

Studies in Comparative Ethics (Chicago: University of Chicago Press, 1985), p. 346.

12. Albert Szent-Györgyi, The Living State (New York: Academic Press, 1972), p. 1.

13. Jürgen Moltmann, God in Creation: A New Theology of Creation and the Spirit of God (New York: Harper and Row, 1985), p. 258.

14. John Mbiti, "In Search of Dialogue in Community", The Ecumenical Review XXXIX, 2 (April, 1987): 195-6.

15. One thinks, for example, of Christopher D. Stone's book, Should Trees Have Standing? Towards Legal Rights for Natural Objects (Los Altos, California: William Kaufmann, Inc., 1974).

16. Alfred North Whitehead, Science and the Modern World (New York: Macmillan-Free Press, 1967, [originally printed in 1925]), p. 207.

THE HUMAN BEING AS AN INTEGRAL BIOSOCIAL WHOLE IN THE TRANSITION FROM BIOSPHERE TO NOOSPHERE

Antony Houbancev

> 'Man is a being who includes within himself all expressions of life ("universal animal") and he may be considered to comprise the whole plan of creation.'
>
> Archpriest Sergius Bulgakov 'Unfading light'.

The view that human beings are an integral biosocial whole is essentially connected with the theory of the noosphere. The latter in fact needs to be more fully developed and defined and also synthesized with current ideas of the noosphere (for instance those of V. I. Vernadsky and Teilhard de Chardin).[1] (Note: From Vernadsky's correspondence one gathers that he had a high opinion of Teilhard to Chardin. Despite the difference in their ages - Vernadsky was about 20 years older - the two were united by a common conception of the meaning and content of the process of evolution. The line of inquiry of Teilhard de Chardin and Vernadsky was also followed by another scholar and thinker, Fr. Pavel Florensky. He supported the idea of the existence in the biosphere also of "something that may be termed the pneumatosphere i.e. of a special part of matter incorporated in the circulation of culture or, rather, into the circulation of the spirit".)[2]

The new conceptions and deeper grasp of the profound functional interdependence of the processes at work in the biosphere and in human society, form the basis of the long-term programmes and research projects aimed at establishing a unified theory of mega-evolution. The latter, as a higher stage of macro-evolution, is connected in a qualitatively new way with the dominant development of humanity, for it is an evolution that is not only biological but also essentially biosocial.

Above all the theory of the noosphere, according to V. I. Vernadsky, comprises the unity of all evolutionary processes on earth: (a) geochemical and physical; (b) the development of living material and (c) of human society. This unity of the evolutionary processes on earth is a cosmic phenomenon which represents a particle of the evolution of the whole cosmos and an element in the history of the universe.[3]

The theory of the noosphere involves a shift to the study of the planet as one all-embracing organism, aiming at the holistic (unitary) description and investigation of the processes of interaction in the techno- and biosphere as well as in human society. In this way the evolutionary processes of inanimate nature, of the organic world and of social structures, prove to be interwoven. This lays the foundations of an infra-science combining all three fundamental areas of human knowledge.[4]

Another noteworthy idea of V. I. Vernadsky is that in the development of civilization, man must assume responsibility for the further evolution of

the cosmic body called Earth.[5] In this connection it is fundamentally important to take into account that humans as biosocial beings 'adapt to the environment, not in the course of a passive biological evolution, but in the process of active social development'.[6] Consequently in the realm which we now call the "noosphere" (that is to say, a domain in which reason operates), what must be decisive is not the spontaneous driving force of natural evolution, but the thinking human mind or spirit with its principles of philanthropy and love of the true, the good and the beautiful. Nor are these ideas unfamiliar to a whole series of Russian thinkers such a V. Soloviev, N. Berdyaev, and Father Pavel Florensky. Berdyaev for instance writes: 'Man is not merely a creature of the world of Nature and its processes, yet at the same time he does live in that world of Nature and participates in its processes. He both depends on the environment and humanizes it; he brings it into an essentially new beginning. The creative act of man in Nature is of cosmogonic importance and signifies a new stage in cosmic life'.[7]

Fr. Pavel Florensky, too, has his own approach to this problem: 'The human being is the little world, the microcosm, whereas the environment is the great world, the macrocosm. That is the usual idea. Yet there is nothing to prevent us from affirming the contrary also, by calling the human being the macrocosm and Nature the microcosm, for if both are infinite, the human being as part of Nature can be equal to it in potential and by his or her aims, while the same can be said of Nature as part of humanity. It cannot be said that the points in a 1 cm cube are interrelated in more ways, identical or different than in a 10 cm sided cube; they are equal. Both Nature and humanity are infinite and thanks to their infinity, being equal in potential, they can be mutually parts of one another. I shall even go so far as to say that they can be parts of themselves, while at the same time being equal in potential to one another and to the whole'.[8]

The transition to anthroposociogenesis and the formation of human society are inseparable as parts of one evolutionary process. In the total evolution of the creation the biosphere naturally passes into the noosphere. In this process human beings, both as image of God and as psychophysical unity, remain just what they are, namely humanity, one of the elements of the biosphere called into existence by the Creator around the quaternary period. Throughout the many millenia of their history, in fulfilment of their Creator's command (cf. Gen 1:28), human beings have striven to bring Nature under their dominion. Consequently they widen their ecological niche; they have adapted both the environment to themselves and themselves to the environment. Humanity is inseparable from biosphere. Pollution of the environment at the present day, caused by humans, must not take the evolution of human society or the biosphere outside the parameters of the realm of homeostasis. The fate of the biosphere is also that of humanity. That means, however, that already in the transition to the noosphere human reason comes to the fore as a decisive factor - the kind of reason which, combined with the ethical power of good, has in all ages been called wisdom.

2. Biological and social heredity. Genotype - Phenotype

Mega-evolution is accompanied in homo sapiens by the gradual reduction and loss of numerous purely biological functions and their corresponding structures. Human beings, it might almost be said, have specialized in the direction of a 'de-specialization'.[9] This in fact expresses their

biological universality. The laws of biological evolution favour their overcoming the ecological specialization of their fore-runners, the animals, which can exist in strictly determined and territorially limited ecological niches. Unlike them, humans are capable of extraordinary, vastly greater versatility. Their capacity for adaption as a biological species has been essentially extended. The universality of their activity and biology also determines the universality of their acquired adaptations by overcoming these narrow specializations. Work and intellect form the social level of their universal, non-specific adaptation.

At the same time the termination of the phylogenesis of Homo sapiens (hominisation) coincides with the origin of culture. And the dawn of civilization is the frontier where the rôle of social over biological factors definitively prevails. It is as though the social lays its taboo on the biological. This can be affirmed not merely metaphorically but also literally. The genesis and subsequent evolution of society are not linked only with socio-economic factors and their predominant rôle, but also with the realization of eternal moral principles and ideals and with the formation and perfecting of the social and moral principles governing relations between human beings. We thus encounter the fact of the rôle of the social environment and the cessation of the process of hominisation. But what of humanity's subsequent biological evolution?

Above all the completion of hominisation does not signify a deficiency of evolutionary development in Homo sapiens. On the contrary, in the stage of macro- und mega-evolution his evolution does not cease but is in its essence transformed. Biologically this phenomenon is expressed by a change in the factors of evolution: change (a) in the driving or guiding form of natural selection; (b) in the stabilizing form of natural selection and (c) in the shift of evolutionary development in the direction of inner differentiation: the genesis of races.

In morphological structure the organism of present-day humans hardly differs from that of the first human beings - Adam and Eve, Cain and Abel. Anthropologists find that 'stone-age man, clothed and hair-styled in today's fashion, could calmly mingle with the passers-by of New York and Paris'.[10]

After the conclusion of the process of hominisation, humanity's biological development proves to be directed towards stabilization of the structures and functions connected with mega-evolution. Whereas in the process of hominisation a dominant rôle belonged to the principles of change, the stabilizing character of natural selection is linked with the operation of the principle of conservation. Or to put it another way, the development of the biology of modern humanity is directed towards the maintenance of a stable and constant state of the already constituted human type.[11] At the present time, however, 'we find ourselves at a stage of evolution at which the mechanism which can be termed a stabilizing factor has scarcely yet become effective'.[12] Hence the difficulty in studying this problem. One thing is clear, however: the stabilizing form of natural selection in the evolution of present-day humanity plays an extremely subordinate rôle as compared with the predominating social factors.

The principle of optimum quality of the phenotype, in the context of macro-evolution, finds specific expression on the plane of

mega-evolution. It is chiefly connected with the interaction of biological and social heredity.[13] In the social programme the most important inheritance arising out of the effect of biological heredity, is the fact - as E. Mayr notes [14] - that 'the species Homo sapiens is no longer subject to genetic control'. It is under the control of the phenotype and leads to the domination of phenotype over genotype. This displays the basic content of the principle of optimum quality of the phenotype in humanity and is an important special feature of mega-evolution.

The phenotype is a product of interaction between genotype and environment. Biologically speaking, everything in ontogenesis depends on how the genoptype interacts with its immediate environment. In other words, the phenotype contains no feature that is absolutely independent of genotype or immediate environment and their interaction. Consequently the phenotype concept is a very broad one and includes the genotype and the effect of the immediate environment on it.

Accordingly the basic feature in the problem of humanity in its biosocial aspect, is the maintenance of the phenotype, the hereditary basis, in its normal form and the creation of environmental conditions which will ensure optimum development of the phenotype. The eminent Soviet scientists N. P. Dubinin and I. T. Frolov see the task of medical, general and molecular genetics as well as of human genetics to be the endeavour 'to maintain in healthy condition the mechanism of human heredity and to counteract defective mutations, without altering the bases of existing genetic information. The new human being, as mental personality, is formed by way of social transformations'[15]. Precisely for that reason one can rightly speak of the vigorous ascent of the phenotype in biological evolution. That applies not only to anthroposociogenesis but also to modern humanity as biological species in the perfecting of the mechanism of adaptation.

Optimum realization of the phenotype is also optimum realization of human adaptation. It is the essential feature, 'the general basis of man's development'[16]. The Soviet scientist T. I. Alekseyeva, for example, thinks, 'In the character ... of the interaction of human populations with the environment, certain features are particularly noticeable by their universality. First, regardless of their racial and ethnic affiliations, the organism reacts to similar ecological influences by changes in the same direction. Secondly, when they change, anthropological characteristics do not transgress the morphological and physiological ethnic limits determined by the genetic stock, whatever the conditions experienced by this or that population. And finally the third, positive feature is that of compensatory reactions: if physical development is declining (loss of body weight, reduction of chest measurement, muscle mass etc.), a rise of the globulin content of the blood is regularly observed ...[17] This complex of variations can be comprised in the concept of "adaptive type"'.[18]

Human adaptation operates through two inheritance programmes, biological and social. Recognition of this fact is becoming increasingly necessary in East and West (Note: In the West the social inheritance process is usually called culture and is linked with direct adaptation and inheritance of acquired characteristics). V. Grant considers that 'the gradual development and accumulation of the cultural heritage constitutes a cultural revolution'. 'The inheritance of the characteristics acquired in the cultural revolution constitutes a real process'.[19] The most

important feature of the social programme (i.e. of culture) is the direct adaptation and inheritance of the acquired variations. That is also E. Mayr's view: 'Cultural revolution is a much more rapid process than biological revolution. One illustration of this is the deep-rooted human (and, oddly, Lamarckian) capacity for cultural revolution by way of transmitting accumulated information from one generation to the next.[20] It is clear that direct adaptation and transmission of acquired information on the social plane operates in a non-biological rather than a biological way. That is also a specific feature of mega-evolution.

Biologically, optimum realization of the phenotype is achieved chiefly by development of direct adaptation and inheritance of the acquired variations. On the biological plane this operates through natural selection, and on the social plane chiefly in a non-biological way, through social information. Optimization of the human phenotype not only serves as a necessary pre-condition for the formation of the programme of social inheritance, but constitutes its essence and content. The social inheritance programme is incorporated in the human phenotype, which represents a unity of the biological and the social.

The concept of social heritage includes all mental and material wealth produced by humanity in its history down to the present day.[21] In defining the content of the mental process, however, we are discussing phenomena on the plane of social consciousness, humanity's mental culture. In the course of time 'the content of mental culture assumes the form of a social programme'.[22] Functionally it is characterized as an inner factor in the development of the personality. It determines human behaviour in family and society, orientates and guides the consciousness, shapes the fundamental social characteristics: humaneness, moral norms, feeling for beauty, ability to foresee the future and sense of responsibility connected with this, sensitivity to love, etc. These basic human characteristics which determine human behaviour are inherited not genetically but socially.

Much importance attaches to the concept of social heritage (and of social inheritance) especially in dealing with the question of the bases and presuppositions of the development of mankind. It expresses the fact that the evolutionary process of humanity (as compared with any animal species) occurs on a qualitatively different, higher and quite new level. The decisive conditions in this case are not the genetic but the social factors. Moreover, the content, function, kind and mode of transmission of the social heritage from one generation to the next - as a necessary condition and basis for further development - is essentially social not genetic. It follows that the concepts of 'social heritage' and 'social inheritance or heredity' express one of the essential aspects of the new quality in the ascending evolution of humanity. It may be succintly formulated as follows: the development of humanity represents a process of constant appropriation and enrichment of the social heritage.[23]

This does not in the least deny or underestimate the rôle of the biological in human beings. This has its due place. Although human beings are in essence social, they can quite rightly be regarded as biological and social beings, as biosocial wholes. (Note: In this context, however, it is necessary to distinguish between the terms 'essence' and 'determination'. Elementary determination in only one direction does not exist for human beings. It is also important to take account of the difference between the concepts 'the essence of being human' and 'the

nature of humanity'. The essence of being human includes social relationships. In their nature human beings appear as a unity of the biological and the social. The nature of humanity is a concept that indicates that human beings belong to the material world, while the essence of being human beings discloses their specific character in comparison with other living beings).

The basic and decisive difference between genetic and social inheritance is revealed in the following two facts. The first is the mechanism of inheritance itself, that is to say the mode of transmission of the genetic and social heritage. The transmission of biological hereditary character is accomplished in a single act and ends with the birth of the living being. The handing on and appropriation of the social heritage in individual development, however, begins precisely at that moment and continues without pause throughout that human life. There is a further, qualitative difference here, for in the transmission of the biological heritage its reception and reproduction proceed quite passively. The second fact is that the assumption of the social heritage (the social process or programme) by the new social formations which take the place of the old, just as one generation succeeds another, is a continuous process of active appropriation. It also operates on the level of individual development (e.g. forms of training) and during the ascending, total evolution of society.[24] The process is two-sided. On one hand the appropriation is a variation in the sense of a transformation of external Nature in harmony with human purposes and needs. On the other it means appropriation of the wealth of material and mental goods produced down to that time by dint of human work.

This process is very involved and complex. A deformation of the parameters of the noosphere must in this case be attributed to the fact that the maximization of material substrata ('having more') does not in itself lead to maximization of the non-material standard of life ('being more'). Life-style, human qualitites and the demands of ecological conscience have to be harmonized with the existing critical ecological situation.[25] Behind all this there also lies the enormous clash over directions of social policy.

Analysis of the optimization principle of the human phenotype indicates that its evolutionary development is continuing on the basis of the stabilizing form of natural selection. It is not, however, leading to the creation of a new species. N. P. Dubinin emphasizes the sustained stability and permanence of the genetic structures of modern humanity, while devoting special attention to their incredible individual plasticity.[26] The evolutionary stabilization of humanity creates the favourable basis not for radical, qualitative, in the sense of phylogenetic, transformation of biology in human beings, but for an evolution within the species, a non-phyletic evolution. The stabilization of biology in human beings forms the basis for their unlimited social evolution. This also constitutes one of the essential special characteristics of the mega- or biosocial evolution of humanity.

2. Information aspect of the development from biosphere to noosphere

Consideration of the biosphere and noosphere in the light of information theory gives a much more complete account of the functional nature of their self-organization.[27] In living systems it is possible because of their open character, that is to say their exchange not only of matter

but also of energy and information with the environment. In contrast to closed systems (in which variations lead to maximum increase of entropy and consequent disorganization of the system), living systems can resist entropy thanks to the energy and information they receive from the environment. (Note: of special interest in this interrelation is the thermodynamic argument for the law of natural selection by L. Bolzmann, namely that the link between whole/cosmos/universe and part/biosphere is ultimately one of energy. Similarly also Lars Onsager's principle of minimal dissipation of energy. The growth of active self-organization is ensured by interaction of information and energy. The presence of energy in living systems would be without significance unless there were information; the former has to be organized with the help of the latter. The biological effects of the interaction of living systems with the environment depend less on the amount of energy than on the information received. In accordance with the latter, energy is organized for the goals for which it is saved. In this way saving in loss of energy is achieved through optimization of information.[28] That is the main criterion of self-organization in the biosphere; it also passes into the development of the noosphere.)

The noosphere presupposes social information in anthroposociogenesis as a measure of the degree of organization. The formation of humanity as a biosocial whole is a process of information-gathering and reduction of entropy. 'Counteracting entropy and information-gathering, are a characteristic law of progress both of Nature and of society'.[29] Increase of information in the struggle for energy is a uniform criterion for understanding the principle of the ascending self-organization of the whole material world. 'Evolution is the accumulation of information'.[30] The higher and the more organized the forms produced by creative evolution are, the narrower is the sphere of entropy and the wider the range of information. The anti-entropy of the noosphere (mega-evolution) is achieved as a result of meaningful organization of energy-processes through social information. The prevailing conception is that humanity, or civilization (culture), in its character as a material system, ensures an anti-entropy effect. 'In humanity's socio-biological evolution a leading factor proves to be kinetic improvement, measured by the intensity of the matter and energy transformation of the environment. This can be observed, for example, in the replacement of the stone age by the iron age, the age of steam, of electricity and so on'.[31] The application of the energy criterion to the study of evolution and formation of society and the consideration of the latter's anti-entropy function, does not mean that the specific features of socio-economic criteria have to be reduced to purely physical ones, of which the energy criterion is one.[32] This is indeed an important but at the same time subordinate element in regard to work as social activity. If, however, social energetics is regarded as subordinate to social factors, the energetics approach is justified.

The basis of the anti-entropy effect of society is work, by which humanity mediates, regulates and controls the material exchange between itself and Nature. As modern research shows, exchange between humanity and Nature is impossible without energy and information. Consequently as a purposeful activity, work regulates and controls not only the material exchange between humanity and Nature, but also to a considerable extent the exchange between energy and information. It is in fact work, as a conscious and fundamental kind of human activity, which is the decisive social factor of mega-evolution.

The presence of the social element in the human psyche (mind, consciousness) is bound up with the ever greater improvement of information. The narrowness of zoopsychological information (on the part of instinct) finds expression in the passive reproduction of inherited 'experience'. Because they lack reason, the animals lack an ideational heritage. Thanks to social phenomena, however, consciousness and speech, Homo sapiens enlarges the problem of the transmission and inheritance of social information by essentially optimizing this information. In the human psyche the tendency of biological systems to reduce information to a minimum, is potentially overcome. Here the opposite law operates, that of maximum provision of information in non-biological ways. On this basis also a further evolutionary process is realized, which belongs only to the social form of movement, namely active social adaptation, in which a leading and decisive factor is adaptation to the environment.

This way of stating the problem makes it possible to overcome theoretically the abstract and occasionally pedantic character of the controversy as to whether the biological laws of human evolution are being exchanged for social ones. There is no question of complete substitution or even elimination of biological by social laws in human evolution; the point is the decisive rôle of social processes.

Consequently the presence of consciousness (thought) and language in human beings gives rise to a qualitatively new and social kind of information. As already mentioned, within the biological form of movement, hereditary transmission of an ideational part of the zoopsychological information is impossible. That is done by means of elementary schooling and is not established by way of coding. Hence the underdevelopment of zoopsychological information as compared with social. As regards it evolutionary stage, zoopsychological information is quite elementary. It lacks subjectivity and has no conceptual forms, for animals possess no faculty of abstract logical thought. The non-inheritable ideational elements of zoopsychological information in animals are transmitted only by gestures, mimicry, postures, sounds. All these are the most elementary external ways of conveying information, and because of the absence of permanent and developed mechanisms of transmission of the (quasi-)ideational part of the zoopsychological information, this is neither preserved nor constantly reproduced.[33] Social information, on the other hand, by means of the developed material carrier, language, can be transmitted much more quickly and perfectly and can be infinitely reproduced. These are the great advantages of social information.

As regards the process of anthroposociogenesis, the gradation of information has the following structure: (a) material (genetic or herditary) information; (b) psychic information (in animals and especially in the primates); (c) social information (as a unity of ideal and material) in human beings. The essentially new feature in social information is the mutual enrichment of material and ideal, and their organic unity, of which the social phenomenon of language is the expression.

Materialization, exchange, reproduction and transmission (inheritance) of social information are realized through language. That contributes to the optimum promotion of information and also to better organization of actual activity, i.e. work. It also explains the advantage of social

information in counter-acting entropy compared to any form of biological information, all of which tend to minimization.

The relation between the three kinds of information can be expressed as in the tables (see appendix).

Under the influence of social factors, the biological factors of anthropogenesis alter: general biological progress (anamorphous) permanently replaces morphological progress[34]. This change itself coincides with the establishment of the dominance of the social over the biological. The development of social information is determined less by natural selection (group selection) of the most skillful and gifted, than by the social factors to which even general biological progress is subordinated. As a consequence, biosocial evolution itself enters on a new stage characterized above all by the complete predominance of social over biological factors.

Conclusions

1. The theoretical conceptions concerning the biosphere and its passage into the noosphere, are marked by multiplicty and a non-traditional approach to solving the problems. Some deal mainly with information functions, others with those of energetics, others again with the functions of exchange of matter within the biosphere. Their task is to present and describe these functions as a unitary holistic process in Creation. The information character of living nature presents the advantages of a biocybernetic model of the biosphere. This displays not only the functional dependence of the parts on the whole, but also the relative independence and autonomy of the parts in the hierarchical system of the whole. The informational approach to consideration of the biosphere in its development to the noosphere is holistic. It makes it possible to follow the way the parts belong to the whole, their integrative union into a system and their subordination of the whole. At the same time for all this interrelation, Karl Jaspers' words still retain their full force: 'Universal aspects do not comprise the sum total of the world... For our knowledge the world is not a closed unity, but fragmented. Research is guided by ideas of unity which hold good in particular domains of the world, but so far there has been no scientifically fruitful unitary idea of the world as a whole'.[35]

Up to the present we have no developed and unified general theory of life. That applies also to a possible synthetic general theory of a directional joint development of the noosphere and society. The special character and complexity of the contemporary stage are due to attempts to produce a synthesis of the constantly changing biological theories put forward. Yet a reliable scientific basis does exist. In an admirable way it throws a wholly new light on the whole of creation (functionality and dynamism) and so offers the possibility for philosophical interpretation and theological reflection on numerous far-reaching processes and laws operative in Nature.

2. Vernadsky's teaching about the noosphere contains heuristic ways of looking at problems which disclose essential features in addressing the question of the creation as a whole:

(a) Life is a cosmic phenomenon;

(b) the fundamental function of life as a biophysical whole is one of energy. It determines the functions of the parts at all structural levels, in all sub-systems of the whole;

(c) all morphological structures and physiological processes of organisms subserve the basic function of vital transformation of cosmic energy into planetary, earthly energy;

(d) the dimensions of organisms, their rates of increase as well as the character of evolution, are determined by this function;

(e) the integrating factor for the totality of life (the biosphere and its living beings) is biochemical adaptation as exchange by means of matter, energy and information. It is also the leading, determining form on all levels of micro-, macro- and mega-evolution. (Note: The conceptions that the structural complexity and ever higher level of self-organization of living systems display an anti-entropic character, represent a very essential complement to this theory);

(f) the biosphere together with its structural units - the ecological chains - passes into a new state in the noosphere. This process is connected with a new form of biochemical energy which may be termed the energy of human culture or biochemical cultural energy';[36]

(g) the transition to anthroposociogenesis is a process of accumulation of information and reduction of entropy. In the noosphere, likewise, the principle holds good that the higher and more developed the evolutionary forms, the narrower the sphere of entropy and the wider the informational field. At this stage, however, it is the result of the meangingful organization of the energy processes with the help of social information.

3. All parts and forms of life are 'organs' of the whole, the biosphere, and their function can only be defined if they are referred to the wide concept of cosmos and universe. Theological interpretation of the world picture is likewise based on a definite holistic approach to uncovering the meta-foundations of the creation and of the historical process bound up with it. Consequently account is taken both of the whole and of the substance bound up with it in the created world.

In the creation as a whole living Nature appears to us as a single, intrinsically closed organic whole, from which no part can be torn. Humanity, too, is deeply rooted as a biosocial whole in the evolution of this world. And if we are the eyes with which the universe sees itself (K. Jaspers), in that case we are perfectly justified in speaking of that world around us anthropomorphically as 'meganthropos'. (Note: The following sidelight is interesting. 'The world as great man' is one of the most widespread mythological conceptions in religions of all ages.) Kinship between world and the human being is also discussed by Fr. Pavel Florensky: 'By different paths thought arrives at one and the same recognition of the ideal kinship of the universe with humanity, their mutual conditioning, interpenetration and essential solidarity. Gnoseologically, all that we know is appropriated and intrinsically changed by us. (Everything is "I" in the sense of Fichte's doctrine. Through the cognitive process it becomes our likeness.) Biologically, all that revolves around us is our body, an extension of our body, the totality of our supplementary organs.[37] Economically, all that is handled, manufactured and utilized is our business. Psychologically, all

of our mind and spirit. Metaphysically - that is really the starting point - since we, who are also something different, exist, it could not possibly not be linked with us. And finally, religiously, the world, the image of Sophia,[38] is mother, bride and consort of the Christ-man-image, resembling him, looking to him for care, tenderness and fecundation by the Spirit. For the male human being must love his wife, consort with her, care for her, guide her by leading her to enlightenment and spiritualization, directing her native power and chaotic impulses in a creative direction, so that in what is created the original cosmos may appear'.[39]

Between humans and other beings there is no barrier. Of this interrelation St.Gregory of Nazianzus says: 'The Logos creates a living being in which...visible and invisible Nature are brought into a unity... By taking material for the body from already created substances and breathing life into it from himself, it is as if God created a second world, the great in miniature. He places on earth another, different angel, created of different natures, to rule over what is on earth but at the same time to be subject to the Kingdom of God - earthly and heavenly, temporal and immortal, perceptible to the senses and apprehensible by reason, uniting spirit and flesh in himself'.[40] As participating in the divine and as image of God, humans comprise in themselves everything in a positive, comprehensive unity. 'The human being is the organized All or universal organism...' declares Archpriest S. Bulgakov. 'He is the logos of the universe, in which it becomes conscious of itself. As created from earth, humans receive in themselves all that is created, yet as created after all creatures, they stand above all... In the universal organism of the psyche the human mind has found and recognized all that is living. In antithesis to Darwinism, humanity did not originate from the lower species, but contains them in itself. The human is a being who includes all expressions of the living ("universal animal") and it may be said that he or she comprises in himself or herself the whole plan of creation. In humans are to be found... psychical qualities which form the basis of the animal world - of that spectrum into which the white light of humanity can be divided. Consequently in humanity the whole animal kingdom is actually recapitualted...'.[41] The dialectical conception of Fr. Florensky is even more comprehensive, of truly cosmic dimensions. 'Humanity is the centre of the universe, its brief conspectus', he writes; 'the univese is a revelation of humanity, its his projection'.[42] This ontological status makes humanity the centre and creative projection in the unfolding of the cosmic forces. Anthropocentrism in this case follows from the criteria provided by the completely new quality in the evolution of the material universe, humanity as highest form of biological synthesis, the thinking human mind and its creative power.

4. As image of God, human beings possess, formally speaking, a god-like nature; they are potentially, God, or even as St.Gregory of Nazianzus calls them, a 'created God'.[43] And if their likeness to God implies endless ascending development of mind or spirit, in creativity and holiness, that does not refer to their anatomical-physiological reality. The maintenance of God-created humanity as a biological species, of its genotype, excludes any attempts at artificial alteration of the objective process of its biological evolution over thousands of years. P.Ramsay, for example, despite his theological concern, is profoundly mistaken in declaring: 'The crisis of our present-day civilization is a genetic crisis'.[44] What is necessary is not to

change the genotype, but on the contrary to stabilize it by creating the most favourable conditions possible for its normal functioning and creative development, that is to say, for the optimum realization of the phenotype. The social factor is the decisive, comprehensive and integrating factor, on one hand limiting and narrowing the biological factor, on the other contributing to the fulfilment of the natural endowments of humanity (capacities, gifts, talents). Their fulfilment would in fact be impossible without the human social environment. The optimum realization of the phenotype is the motive force by which what is new is transformed and brought into the world of human beings. This tendency is essentially bound up with the basic principles of the preservation of the creation. The theological standpoint on this question, therefore, is in no way bound up with the biologizing reductionism or with the whole set of problems raised by eugenics.

The evolution of the noosphere is conditioned by social factors. The parameter changes of the ecological niche are of a phenotypal nature. As the level of complexity of self-organization rises, the risk factors which lead to destruction or to self-destruction of the noosphere also increase. Its critical sectors in this case are the social frontiers - peace and justice, and the inner frontiers of the individual - lack of ideals, meaning, alienation.[45] It remains an open question whether the existing multiplicity of phenotypal capacities for a new mode of thought and for training will prove sufficient to meet the need to stabilize the humanity-environment system. The present situation is fatefully critical, for that system can perish as a result of the obvious asymmetry which we ourselves have brought about. In this sense the future of the noosphere undoubtedly depends on that invariable fact to which all previous achievements and successes are due: the capacity for training, transmission and appropriation of what is constructive and positive in the process of social inheritance. Consequently the problem of human beings, in their all-embracing, comprehensive capacity, once again becomes the focus of attention. In all probability it may also prove to be the most difficult and controversial problem of the theory of the noosphere. 'By entering on the age of the noosphere, that is to say, that period in the evolution of the earth when its further progress is determined by the human mind, we must be clear that parallel to all the positive advantages involved, humanity is also entering the sphere of new and unforeseeable difficulties. To overcome them will demand the application of all possible capacities of the human personality. For human beings in future will need not only the entire wealth of the genetic stock, not only the whole existing palette of human culture and experience as well as the new technology, but to an increasing degree the individual creative activity and spirit of enterprise of each individual personality'.[46]

In the evolution of the universe, humanity is not as it were an accidental deviation, but its measure. Humanity is a result of creative purpose, subsequently changing itself in independently creative purposefulness. We do not only discern the destination of our existence, we in practice produce it. Human mental-objective praxis is ontogenic. That is to say, that through it, basically new elements are created which would never have arisen in a purely natural way, if humanity had not existed. The Creator's breath can and must be comprised in the constructive momentum of humanity's great world mission within God's plan of cosmic development. The universe is not a tomb for the thinking human mind. It is no 'intoxicating, hostile universe... all the more

meaningless the more tangible it is' (cf. Steven Weinberg, The First Three Minutes). In the dimensions of faith in the eternal Logos 'through whom all things came to be' ('di nou ta panta egeneto'), it is a source of knowledge and creativity, of joy and beauty, of immortality and with the prospect that the present 'heaven and earth will pass away' (Mt. 24:35).

5. The synthesis achieved at the present day of evolution theory with biogeo-chemistry, biophysics, geophysics, biocybernetics, biogeography, ecology and other branches of natural sciences, is of great theoretical and cognitive value. It does not mean only a collective approach to Nature. It reveals the extraordinary complexity and unsuspected dialectical depth, as well as the inter-connections, of the basic principles which constitute the foundation of creation as a whole. Taken on a higher level of abstraction, those principles in many cases lead to theological antinomies. The traditional approach to new, non-trivial conceptions, one based on abstract theological models, would only outline the formal framework of the problem. At the same time that would mean an unrealistic appraisal of the complexity of the processes in operation. We possess the patristic heritage. In this case it can serve more than as an example of the theological truths revealed by God with the achievements of the then ancient Greco-Roman world. First of all as a brilliant example to be followed. Modern civilization is bringing to light fundamentally new realities and new ways of stating problems. These did not exist in those times and consequently could not be subjected to theological interpretation. The need for a new theological synthesis is obvious. In this respect our contemporary theology has a debt to pay to the Holy Fathers of the Church.

Appendix

INTERACTION AND DEVELOPMENT OF THE THREE KINDS OF INFORMATION

Table 1

Reference	Types of information		
	genetic	zoopsychological	social
1	2	3	4
Carrier	Genotype	Genotype Phenotype	Society-Individual (phenotypal)
Basic features	Relative exclusivity (screening) Minimization	Relative exclusivity - openness Minimization - optimization Acceleration	Openness Optimization Super-acceleration
	Retardation (from generation to generation) Asynchronous only in one direction - from past to present and future	Asynchronous with elements of synchronization	Asynchronous - synchronous

Table 2

Driving force	Individual natural selection (according to individual phenotype)	Group natural selection (biological intercourse)	Social intercourse and conscious activity
Coding	Genetic	Genetic	Phenotypal social - language
Regulation	Struggle for existence (egotism)	Individual - populational (egotism - altruism)	Moral and legal norms (collectivism)

Table 3

Reference	Types of information		
	genetic	zoopsychological	social
1	2	3	4
Heredity	Organic (only by genotype, with no possibility of transmission of favourable acquired characteristics)	By genotype, but with elements of non-genetic reflection (by teaching)	Social inheritance, extended (phenotypal, including the acquired information)
Agents of heredity	Genes	Genes and signal	Language (spoken and written)
Reflection	Material	Material (instinct. Ideal (elementary quasi-ideal)	Ideal (thought)

Table 4

Determination	Strict generic control	Generic - individual (mediated through biological relations)	Mediated (through conscious activity and social intercourse)
Concepts of humanity based on kinds of information (in inheritance)	Eugenics - biological reductionism denying man's social being		Euphenics - doctrine of humanity based on the unity of social, psychological, biological, medical and other factors in human development

Footnotes

(The works listed are in Russian unless otherwise indicated)

1. N. P. Antonov, V. N. Barenin, On two conceptions of the noosphere; in: Philosophical Sciences, 1978, pp. 103 - 108, No. 6.

2. Theological Works, 1983, No. 24, p. 230.

3. It will be noted that ideas to this effect are also contained in the Faith and Order, Bristol 1967 document "Gott in Natur und Geschichte", German text in: Beiheft zur Oekumenischen Rundschau, 7/8, Stuttgart 1967, p. 17, 19 (V-a,b; VI-1).

4. Cf. N. N. Moyseyev, V. V. Aleksandrov, A. M. Tarko, Man and Biosphere, Moscow 1985, p.9.

5. Cf. V. I. Vernadsky, Reflections of a Naturalist, Scientific Thought as a Planetary Phenomenon, Vol. 2, Moscow 1977.

6. W. Scheler, M. Steenbeck, Genetisches und gesellschaftliches Erbe, German Text in: DZfPh, 1973, No. 7, p. 791.

7. Nicholas Berdyaev, The Destiny of Man, Paris 1931, p. 51.

8. Fr. Pavel Florensky, Macrocosm and Microcosm, in: Theological Works, 1983, No. 24, p. 233.

9. Cf. E. Mayr, Zoological Species and Evolution, Moscow 1981, p. 510.

10. P. Vud, Life until Man, Moscow 1977, p. 138.

11. Cf. I. I. Shmal'khayzen, Cybernetic Questions of Biology, Novosibirsk, 1966,p. 53; G. A. Yugay, General Theory of Life, Moscow 1985, p. 233.

12. D. Belyaev, Methodological Problems of Biology, Prague 1978, p. 93.

13. It will be noted that instead of 'social heredity' or 'social inheritance' the sociological terms 'handing down', 'tradition' (as transmission of social experience and information), 'social communication and formation' (cf. Philosophische und ethische Probleme, Berlin 1974, in German), or appropriation' are also used - (cf. G. M. Ditl, G. Gaze, G. G. Krankhol'd, Human Genetics in Socialist Society, Moscow 1981, p. 115)

14. E. Meyr, Evolution; in: Evolution, Moscow 1968, p. 31.

15. N. R. Dubinin, J. T. Frolov, Wissenschaft für den Menschen, in: DZfPh. 1973, No. 5, p. 592, in German.

16. Cf. G. A. Yugay, op. cit., note 11 above.

17. T. I. Alecseyeva, Ecological Niche - Earth; in: Knowledge is Power, 1983, No. 1, p. 17.

18. Ibid.

19. V. Grant, The Evolution of Organisms, Moscow 1980, p. 351.

20. E. Mayr, Evolution; in: Evolution, pp. 30 - 31.

21. A. Kosing, Diskussionsbeitrag auf dem III. Kühlungsborner Kolloquium in: Philosophische und ethische Probleme der Molekularbiologie, Berlin 1974, p. 153; A. Kurelle, Das Eigene und das Fremde, Berlin - Weimar 1968 (both in German).

22. N. P. Dubinin, Neue Kategorien der Evolution des Menschen, in: Philosophische und ethische Probleme der Molekularbiologie, p. 119.

23. Cf. G. M. Ditl, G. Gase, G.G. Krankhold, Human Genetics in Socialist Society, Moscow 1981, p. 97.

24. Ibid.

25. Cf. Oekologische Verantwortung, in: Societas Ethica, Balatonfüred, Hungary, 1976 (in German).

26. Cf. N. P. Dubinin, Philosophical and Sociological Aspects of Human Genetics; in: Questions of Philosophy, 1971, No. 1, p. 41; N. P. Dubinin, Y. G. Shevchenko, Some Questions of the Biosocial Nature of Man, Moscow 1976, pp. 151, 195 - 196.

27. Cf. I. I. Shmal'khayzen, Cybernetic Questions of Biology; id., Factors of Evolution, Moscow 1968.

28. Cf. G. A. Yuray, op. cit., pp. 193 - 195.

29. A. D. Ursul, Mankind, Earth, Universe, Moscow 1977, p. 207.

30. A. E. Sedov, Evolution and Information, Moscow 1978, p. 28.

31. S. E. Shnol', Physicochemical Factors of Biological Evolution, Moscow 1975, p. 228.

32. Energy and energism are also characteristic for G. Odum and E. Odum, Energetics Basis of Man and Nature, Moscow 1978.

33. Cf. V. I. Kremenskiy, Methodological Problems of a Systematic Approach to Information, Moscow 1973, p. 107.

34. Cf. G. A. Yuray, op. cit., pp. 226 - 229.

35. Karl Jaspers, Kleine Schule des philosophischen Denkens, Munich 1965, pp. 18, 21 - 22 (in German).

36. V. I. Verdansky, Reflections of a Naturalist. Scientific Thought as a Planetary Phenomenon, Vol. 2, p. 95.

37. Fr. P. Florensky, Organoprojections, a chapter from the work: At Watersheds of Thought, 1922; in: Decorative Art of the USSR, 1969, No. 145, pp. 39 - 42.

38. Cf. also the work of Fr. P. Florensky: Sophia (1, pp. 319 - 392). As his Eminence Bishop Pitirim of Volokolamsk observes, 'No one has succeeded in stating this problem in such a way that it appears to our minds as fully solved, generally acknowledged and quite undisputed ... Fr. Pavel Florensky presents Sophia as the great root of all creatures ... by which the creation enters into the inner life of the Holy Trinity and by which it receives eternal life from the one source of life ... As regards the creation, Sophia is its guardian angel, the ideal personality of the world. In regard to what is created, it is the formative reason, in regard to the divine reason itself it is its ever self-forming reality, which by the Father, through the mediation of the Son is eternally created and brought to completion by the Holy Spirit'. (Bishop Pitirim of Volokolamsk, Basic Problems of Modern Theological Research and their Development since the late Nineteenth Century, Theological Works, 5, 1970, pp. 221 - 222.

39. Fr. Pavel Florensky, Macrocosm and Microcosm, p. 230.

40. St. Gregory of Nazianzus, Works, Russian Translation, Moscow 1885^2, Pt. 4, p. 128

41. Archpriest S. Bulgakov, Light Unfading, Moscow 1917, pp. 285 - 286.

42. Fr. P. Florensky. op. cit.

43. Cf. St. Gregory of Nazianzus, PG, t. 37, col. 678 A.

44. P. Ramsey, The Moral and Religious Implications of Genetic Control - Heredity and Society, Readings in Social Genetics, New York 1973, p. 365.

45. Cf. J. Millendorfer, Konturen einer dritten industriellen Revolution; in: Stimmen der Zeit, 197 6, No. 6, pp. 408 - 419 (in German).

46. N. N. Moyseyev, I. T. Fronov, High Contiguity; in: Questions of Philosophy, 1984, No. 9, p. 41.

An Analysis of Church and Society Social Ethical Writings

by James M. Gustafson

My intention in this paper is to be of some service to the Working Group as it continues to analyze issues and to publish mateials. Thus the paper has utility value only, and will have met my aspiration for it if assists the activities of the Working Group.

Apart from a short paper written for the Geneva Conference books I have not been active in WCC groups since the Faith and Order Conference in Montreal. Thus I come to this literature and to this meeting very much as an outsider. There is, no doubt, an inner coherence and development in the work of the Church and Society division of the WCC that is clearer and more alive for those who have participated in it than is the case for one who has read much of the material casually through the years but not been integrally involved in its production. Paul Abrecht's paper read at the U.S. Society of Christian Ethics makes this apparent. (In 1978 I heard M.M. Thomas give two weeks of lectures to a group of teachers of ethics from seminaries all over India on ecumenical social thought, and was impressed deeply with the way in which many things I had read suddenly had a breath and life I had not found in them before.)

In preparation for this paper I have read the complete run of Anticipation, a publication I had (except for a very few numbers) read only casually through the years. I have also read a variety of other reports from conferences, official documents and statements, and other miscellaneous items.

From various signals and instructions pertinent to my assignment I have forged an approach which draws on my own previous current work as an analyst of literature in Christian ethics. The intention of much of my work has not been polemical, but heuristic and pedagogical. Different patterns of analysis have been used with different bodies of literature and at different stages of my work. From among them I have had to choose what seems to me to be probably most beneficial for this meeting. They also overlap to some extent.

One that I do not use to frame this paper is an analysis of "levels of moral discourse" and the relations of the levels to each other. Put briefly, in that work one can start with particular and precise moral critiques or moral prescriptions that are made; then ask what principles and values justify them and how they justify them; and then ask what "vindicating beliefs," theological views, etc., back or warrant the ethical prescriptions and moral values and just how they back them. Or, the order can be reversed, beginning with theology. In this approach one looks primarily for coherence between theology, ethics, and particular policy proposals or ethical critiques of states or affairs.

In another that I do not use here I distinguish between four base points and four sources for theological ethics. The assumption is that comprehensive and coherent theological ethics, in some way, touch all the base points and make defended choices among the sources. They also need an organizing perspective, metaphor, analogy, or principle. The four base points are: theological in a restricted sense, i.e. and understanding of God and God's relations to the world and God's purposes; the interpretation of the meaning

and significance of human experience, historical life, events and circumstances in which humans act, and nature; the interpretation of persons or institutions as moral agents, and their acts; and the interpretation of how persons ought to make moral choices and judge actions and states of affairs in the world. The four sources are: the Bible and Christian tradition; philosophical methods, insights and principles; human experience broadly conceived; and scientific information and methods relevant to the issue being addressed.

Both of these patterns of analysis seek to identify coherence and incoherence in ethical writings, and also (the second particularly) the comprehensiveness of the writings. The C and S materials do not, as a whole, lend themselves to analyses in this way; they are diverse in theologies, ethics, interpretations of events and prescriptions and none of them, quite properly, is fully systematic in character. Yet, while I do not pursue these two approaches in this paper, one could use them to assess individual materials I have studied. An interpretation and analysis of WCC documents in their lights could have heuristic value, showing strengths and weaknesses, etc., in various ones.

For this paper I have chosen to use an agenda I am calling, provisionally, "Varieties of moral discourse." I do this because in reading for this paper, I was impressed with the varieties of moral discourse in the literature, and it is wider than it will be developed in this paper. My most fundamental observation is that what is called social ethics in the WCC literature covers a lot of bases, addresses a lot of issues, is relevant to very different audiences, and is written in many different ways; greater self-consciousness about the differences in the literature, in the potential audiences, and in the purposes served might be clarifying and useful. Thus the paper addresses more formal than substantive matters in the literature The structure of the paper is this: first, a brief description of the varieties of discourse I use; an all too brief analysis of literature I have studied in the light of the varieties; and finally some concluding observations.

Varieties of Moral Discourse

The principal and relevant distinctions are between what I designate as prophetic, narrative, ethical and policy discourse. The wider framework of the relations of theology, biblical materials, scientific and policy literature, etc., to ethics and policy is involved in Christian writings in each. That wider framework is suggested above, but is not developed systematically here.

Prophetic moral discourse, as I use the notion, has the following characteristics. First, prophetic discourse takes two distinguishable forms: that of indictment and a more utopian form. Indictment shows dramatically and vividly how far human society has fallen from what it ought to be; see, for example, aspects of the eighth century prophets. Utopian discourse proclaims an ideal state of future of affairs which functions as an attractive allure and can motivate communities toward its realization.

Prophetic indictment usually addresses the roots of moral and social waywardness, not specific instances in which particular policies are judged to be inadequate or wrong. Fundamental values or orientations of social life are the source of the fault. Prophetic indictment also uses vivid language and symbols to make its point, e.g. the language of harlotry in Hosea. Its language has a motivating capacity not found in more abstract forms of moral discourse. It evokes a sense of crisis or urgency. Utopian discourse is similarly vivid; it allures, it appeals to human idealism.

Prophetic discourse is legitimate and important, but not sufficient. It dramatizes; it undercuts meager preoccupations about means to short range ends; it stirs human moral sentiments. Rigorous ethical writings and policy statements cannot do that. But by being in focus on the root of the evil it cannot inform incremental choices made by persons and institutions where good and bad are commingled, and where "trade-offs" have to be defended. By being in focus on an ideal future, it often has little to say about means to shorter range ends in view.

The proponents of narrative ethics also make a correct point, but narrative is also insufficient. Put too simply, their principal contention is that narratives function to sustain common memory in a community; narratives shape the moral ethos of a community and provide its moral identity. Persons, by participating in a particular community have their consciences or moral identity shaped by the narratives; their characters are formed by stories. There is another use of narrative moral discourse: stories, parables, etc., are used at the point of particular moral choices. Telling an apt story may provide more nuanced and subtle illumination at that moment than the conclusion of a rigorous casuistic argument.

Both of these uses of narrative are to be affirmed. But narrative discourse is not sufficient. The particularity of the story might impede discourse with those who do not share its authority; Christians in the modern world participate in several communities each with their own stories and myths; illuminating stories can inform the exercise of the virtue of prudence but need to be tested by more rationally rigorous moral discourse.

By ethical discourse I refer to more philosophically self-conscious and rigorous modes of moral argumentation. In Christian ethical literature its presence occurs in many places. There are those concerned to find the rational grounds of autonomous ethics which might be backed by Christian convictions but which can be shared with non-believers. Others argue that Christian ethics is, or ought to be, deontic or teleological, or of some other type modern philosophers have distinguished. One finds ethical discourse also in the practice of casuistry in which precise distinctions and syllogistic logic are used to prescribe particular courses of action. Ethical discourse requires precision in use of concepts, such as justice, rights, duties and ends; precision in distinctions between morally relevant aspects of circumstances and rigorously logical argument.

But it is not sufficient. In comparison with prophetic discourse it does

different purposes.

Prophetic discourse indicts and evokes a sense of urgency; it envisions a future and creates conditions of hope. There are many examples of each of these in the W.C.C. material.

Certainly the impact of the Club of Rome analysis, which clearly shaped a good bit of the discussions over an extended period of time, was to evoke a sense of urgency, indeed of crisis. In this case, as in some of Professor Birch's papers on population, the sense of crisis was shaped by the accumulation of a considerable amount of date, and by extrapolations from it to anticipated future outcomes. One notes that such descriptions are always evaluative; the data are selected and shaped into a more or less coherent Gestalt which is, prima facie, persuasive. And one notes how certain models, analogies, or metaphors are used to shape the data: the systems analysis of the Club of Rome, Birch's use of Hardin's tragedy of the commons, etc., are examples of this. Any critical response to such depictions requires the adducing of counter-evidences and/or a critique of the models and metaphors that shape them.

Indictment is also substantiated by the concepts used in the social analysis, and by the human values that are held to be at stake in different social analyses. Social, economic and political analysis impregnates a great deal of the literature. The responses to the historical event of the oil crisis of 1973-74 are examples of this. Indictments finally are in focus on particular agencies -- nations, corporations, classes of people -- whose attitudes and actions are judged to be the major causes of the evil or injustice under consideration. There is a kind of proportionality between the analysis and the courses of action prescribed or suggested to rectify the evil attended to. This is not novel or confined to WCC documents; it is present in the history of Western social ethics. A critical factor in the material I studied is the social analysis of the causes of the problems under discussion.

Clearly there is not unanimity in the literature about what information is relevant, what models or metaphors are appropriate to state a problem or a situation, what concepts and explantory theses are to be used to diagnose the issue, and what values are threatened by the events under discussion. In this respect the WCC is no different from any other groups that seeks to be responsive to perceived critical events in human life. Like any other group, to be persuasive the WCC has to marshall the best analysis possible to make its indictments stick and to evoke a proper sense of urgency.

To be sure, the literature proceeds from the urgent indictments to suggestions or prescriptions for action. The logic is, "if . . .then . . " And the courses of action prescribed or suggested are proportionate to the crisis portrayed. One of Roger Shinn's contributions through the years has been to remind readers how a certain diagnosis seems to necessitate a certain prescription, and that alternative diagnoses lead to alternative prescriptions.

not often locate the root of a problem or evoke a hopeful vision. Nor does its language have much motivating capacity. Compared with narrative discourse, it does not provide the symbols that shape an ethos, nor (at the point of particular choices) does casuistry evoke larger dimensions to be considered or imaginative responses.

Of policy discourse I want to highlight only a few of its many features. Whereas ethical discourse asks as the first question, 'What ought we to do,' in policy discourse the first question is likely to be, 'What is going on'? Policy discourse seeks to determine what is desirable within the constraints of what is possible. At its best it is written from the standpoint of responsible agents and not external observers; i.e. it assumes the position of responsibility within enabling and limiting conditions. The range of necessary information and knowledge is broad; the assessment of power to affect change is crucial; the time frame for the achievement of ends is generally shorter and technical considerations are more prominent.

Policy discourse is necessary but not sufficient in Christian ethical literature. It places its own demands on authors in terms of knowledge, concepts, and understanding; it has to be concerned with loci of power to affect courses and action. But it necessarily works within limited visions, limited frames of reference. It accepts conditions which from prophetic and ethical perspectives might be judged to be morally wrong, or at least inadequate. The ethical informs but does not determine the choices of the policy maker in most circumstances.

Before turning to more specific references to the WCC literature, I wish to note some general observations which will bear on remainder of this paper. First, I take it to be proper that W.C.C social ethical literature intends to be persuasive; it has a practical end. Each of the modes of moral discourse I have delineated has a distinguishable intention; each perhaps has a different object of persuasion. The purpose of prophetic Christian discourse is different from that of ethical discourse or policy discourse produced by Christians. Prophetic discourse arouses awareness of the presence of an evil; it is exhortive in its effect. But, per se, it is not of much help to Christians in positions of policy responsibility in public or private sectors. Thus the question emerges, 'For whom is the literature being written?' Who is the intended audience? Whom does one want to persuade? How are there four modes of moral discourse related to each other? (Different theological dispositions back preferences for different modes of discourse -- that is the larger issue I cannot take up in this paper.)

Analysis of some WCC C and S literature

The forms of moral discourse I have distinguished are all found in the numbers of Anticipation and other literature I have studied, including the report from Potsdam. In some pieces one finds them all; other pieces tend to be more of one than the others. One could do a more intensive analysis than I do here and show how different pieces seem to be directed to different audiences; the argument and rhetoric would seem to be in the service of

There are utopian notes as well as indictments. Dr. Laeyendecker-Thung's analytical paper from Potsdam has a strong statement about the need for utopian notes (p. 34). In Anticipation #13 (Cardiff report) there is a section, "The Utopian Vision: In Search for Alternatives." Its most utopian statement is, "We envision a world community in which war is only a memory and in which we respect the delicacy of the biosphere, honour the rightful claim of every child and adult on the world's good, and promote the participation of all persons in making social decisions" (p. 3). This seems to function as a heuristic device to help persons see what is really needed and desirable. Various aims are inferred from this vision which provide possible ends in view that are applicable to contemporary conditions.

Although the theological appeals to the coming Kingdom of God are not described in detailed expectations of an earthly future of human well-being, there are numerous invocations of hopeful eschatological themes. My impression is that the prophetic indictments are generally substantiated by evidences and arguments from current events; the sense of crisis is not engendered by the use of biblical prophetic rhetoric. The signals of hopefulness, by contrast, are generally based upon biblical theological themes about God's promise, or a kind of openness of the future. To this reader the contrast is glaring, and perhaps it is intentional; that the world is something of a mess can be demonstrated by analysis of current events and society; few evidences for grounds of hope are drawn from the social data, analyses and extrapolations. The major evidence for hope has to be drawn from biblical theology.

The prophetic discourse in the W.C.C. literature has an important, legitimate, but limited function. It evokes a sense of urgency, and provides images of hope. It appeals not simply to the rational faculties of the readers, but also to their senses of injustice, moral indignation and moral aspiration. Prophetic discourse motivates action but is not sufficient to direct it. One cannot move from prophecy to policy without the mediation of more specifically stated ethical principles and human values. Intuitively some persons seem to move with swiftness and ease from indictment or moral vision to propose courses of action; others with greater care, consciously interpose other modes of moral discourse between the prophetic and the policy. The questions I wish to raise for discussion are these. Has the WCC sometimes assumed it has done its social ethics when it has been prophetic? When it has not assumed that, has it been sufficiently self-conscious of what is required, and how to proceed, to move from the prophetic to the social ethical and to policy recommendations? Has it always been sufficiently self-critical of the evaluative descriptions which specify the ills it addresses?

Narrative discourse has two principal functions: to sustain the identity of the community through memory of its traditions and thus provide its perspective on issues, and to suggest courses of action in particular circumstances. I shall briefly note some examples of this.

What I (loosely) call narrative in the material under analysis functions primarily to call the Christian community to its distinctive sources and heritage, and thus the object of the address is the Church. A good example of this is Dr. Heino Falcke's paper in the Potsdam report (pp. 74-80). The point of such a paper is not to provide a basis for ethics which can be shared with the secular world but to show how the concerns of JPIC can be grounded in and informed by the distinctive source of the life of the churches, the Bible.

A different use of a different type of narrative is Kosuke Koyama's essay, "Theological Reflections on the Bamboo Room and Oil Room," in Anticipation #16, pp. 8-13. Here the storyteller discloses two types of mentality, the "curved liturgical mind" and the "straight technological mind." For him the mind of Christ, the biblical mind and the mind of history are curved, slow and dialogical. What is the function or effect of such a narrative? It is not to back ethical principles which can be applied to policy. It presupposes that its audience is disposed to respond to the narrative as it draws from the biblical material as well as material indigenous to East Asia. It seeks to show an alternative way of thinking and living to the dominant technological model. Like Falcke's Potsdam paper, but in a different way, it appeals to those who are loyal to the Bible and the Christian faith and its persuasiveness is dependent on that commitment.

The second function of narrative (perhaps we can call it parabolic or exemplary) is also present to a lesser degree in the writings I have studied. There are descriptions of the activities of persons and institutions which are persuasive and action-guiding by virtue of their suggestiveness. Without adducing evidences for this I wish to comment on its significance. Insofar as an intention of the C and S literature is not only to encourage certain kinds of activity but also to provide some morally worthy and religiously authentic backing for it, perhaps more use of narratives as exemplary illustrations would be possible. The applicability from one context of activity, e.g. a place in Africa, to another context would take place by a process of analogical thinking rather than by abstraction from one example to general principles which in turn would be applicable to the other. Put more simply, stories of how the biosphere can be respected which incite what my colleague David Tracy called "the analogical imagination" might have more significant outcomes than extended theoretical discussions of the theological and ethical principles for such respect. The answer to the question, "what ought we to do?" might be the narration of what persons have done in similar circumstances, rather than application of generalized and abstract principles or concepts.

The particular strength of narrative moral discourse is its specificity, concreteness, or absence of high level abstraction. It take seriously the communal character and the historic traditional character of the Church. It gives continuity and shape to the moral ethos of the community; while other factors also shape ethos, narrative does sustain memory of the founding events of the church and of its continued life of both unfaithfulness and faithfulness. Certainly it is important for the WCC to aid the churches to

vivify the stories and symbols which nourish and provide some guidance to the concerns of JPIC. (It is here that evangelization and social concerns and liturgy and social concerns have an important connection.)

But narrative is not sufficient for social ethics. Nor do the writings I have studied assume that to be the case. It is not as easy to move from the Christian story to answer the question of what ought to be done in issues of intervening into nature as some persons might think. But narrative can nourish the attitudes of respect for human life and nature and provide symbols for portraying the significance of occasions and events in which we act.

As examples of possible course of action narratives are important -- as I stated above. But it is proper in the intellectual moral life of the Church to make ethical, indeed casuistic, arguments for the propriety of one story in relation to another.

The questions I wish to raise for discussion are these. Have the C and S publications sufficiently clear about what audience is the object of the forms of discourse, and particularly narrative discourse? Or, within the varieties of discourse, about what narrative can most effectively do as a persuasive form of address compared with policy discourse? (For purposes of space I do not develop here the ways in which narratives can function prophetically both to indict and to enlarge moral visions.)

Ethical discourse is philosophically self-conscious and rigorous in its modes of argumentation. In the literature under study one looks for clarity of concepts, such as justice or the common good. One looks for relevant distinctions within general concepts such as justice, and for precision in their use both in the analysis and in the recommendations for action. Most Western moral philosophers and most Christian ethicians who concentrate on philosophical issues would find the C and S material to be grossly deficient in the technical aspects of ethics as a philosophical discipline. If that deficiency is intentional one would like to see some justification of it.

Since the J in PJIC stands for justice, and since the word justice is widely used in the materials, I shall look at it briefly. My impression is that in much of the usage the assumption is that its meaning is self-evident. The first and most precise discussion of the term that I found is in Anticipation #15 (1973), p. 11. "The moral principle of justice must have priority. Justice means neither a 'principle of merit', i.e. distribution in proportion to certain meritorious behavior (intelligence, thrift), nor a 'principle of objective equality', i.e. a distribution whereby everyone attains an exactly equal amount of good life. It means a principle of needs, i.e. a distribution whereby all people are accorded an equal means of realizing a maximum of good in their lives in relation to their capacities and particular requirements." This, of course, invokes some (but not all) of the traditional material distinctions used in the application of the formal principle of distributive justice as it is stated in the form of "Equals shall be treated equally." The paragraph goes on to distinguish between wants and basic needs.

Certainly the implication of most theological discussions through the years is that a needs based view of distributive justice is normative for Christians. And there are places which describe what those needs, or "qualities of life," are. Some arguments might be brought into sharper focus. One is a direct and precise argument from theological premises for the needs based view of distributive justice. (A section on "Some Theological Issues" follows immediately the paragraph from which I have quoted, but its contents do not refer to this issue.) A strong and clearly focused theological argument that grounds or backs the needs-based view of distributive justice is required to support what seems to be regnant in most of the literature.

A second argument might develop with greater precision the ways in which this needs-based material concept of justice is applicable to policy alternatives. Application is made, but the steps are not clearly lined out. For example, is it incumbent on the WCC to think about needs as a primary basis for justice but then also to think about merit, etc., as secondary requirements in order to achieve some approximation of the primary concern? Is some structure of society which distributes according to some principle of merit a necessary condition to motivate activity and production that serves the criterion of need?

A third kind of argument comes to my attention. In Anticipation #19 (Bucharest report), we have a different operative use of the term justice. "Justice means awareness of the authentic interdependence of people and of people with their natural environment. Independence, in the sense of liberation from the oppression of others, is a requirement of justice. But independence, in the sense of isolation from the human community, is neither possible nor just" (p. 5). Justice, another sentence states, includes nature as well as society. An academic is prone to quibble about this kind of statement, but I hope in a way that is helpful. Independence as a requirement of justice might be based on a deeper principle of need, but such is not adduced here. The larger issue is the relationship between a more or less factual assertion, i.e. the interdependence of people and of people with nature on the one hand, and the application of a principle of distribution on the other. The section goes on to describe the existing aggregates of power in society. "In such a situation it becomes important to emphasize two complementary themes. First, some traditional freedoms, whether of individuals or social classes or nations, must be subordinated to the common good. Freedom to oppress others, freedom to threaten the environment, freedom to act recklessly, become extremely dangerous. But, second, freedom of conscience and freedom for creativity become increasingly precious to people who feel themselves reduced to fragments of powerful states or business corporations. The maintenance of some harmony between social responsibility and personal freedom is an issue in all societies."

This section does not have a very clear and precise ethical argument. Its elements seem to be: 1) a common-sense ontology of interdependence is invoked which issues in a notion of common needs (I do not quote that

above). 2) The importance of the common good is elevated. "Common good" is an important concept, but one that is notoriously difficult to be precise about. 3) There is an implied but unexplicated notion of the relation between justice and the common good in this material. 4) Just why it is important to emphasize the two complementary themes is not clear; one can think of other conclusions that could follow as well. 5) The final sentence might more clearly have been stated as follows (though my statement is hardly felicitous): Common good requires "some harmony" between personal freedom and the requirements of social responsibility, and that harmony must be regulated by criteria of distributive justice.

My point is that this argument would be clearer and more persuasive if greater care had been given to what constitutes a good ethical argument.

Good moral arguments, in my judgment, can be mixed arguments in the sense that one can combine, e.g. arguments from a principle of justice with arguments made from anticipated outcomes of activities in which judgments are made about their benefits or harms. In Anticipation #13 (Cardiff reports), pp. 9-11, we have a basically consequentialist analysis and argument. The first part "defines" resource limitations, the second part is a comparative analysis of risks involved in alternative approaches after asking whether we should "generally act as though currently known reserves were the only ones available." The third part is a brief statement of assessment of various social consequences. My point is not that a WCC document should justify the use of consequentialist modes of ethical argument so that it answers the philosophical criticisms of that way of thinking ethically. It is, however, that consciousness of the issues of this mode of argument should be evident and taken into account in its use. I believe this would add to the persuasiveness of the material to critical readers, whether in the churches or in positions of policy making.

Further specifications of matters of ethical argumentation in the material would be redundant. The larger theological vindications for using different forms of ethical argument is a matter from which I prescind here, though theological literature about ethics makes arguments for different positions (e.g., contrasts between Barth's ethics of the command of God and traditional Roman Catholic natural law ethics are based on different theological backings, and not simply justified preferences for alternative philosophical ethical theories.)

One cannot move from prophetic and narrative discourse to policy recommendations without some intervening kinds of arguments, and ethics provides those. But, an ethical argument informs but does not determine the choices of the policy maker in most circumstances. When one is thinking about policy the desirable is always considered within the conditions of what is possible. If one empathizes with those who seek the good under the conditions of finitude, i.e., the possible, some policy recommendations I have read are, indeed, unrealistic, e.g. Anticipation #19 (Bucharest), p. 13: "The establishment of a global progressive income tax levied and re-allocated by a transnational body to form the basis for a world that insures the security of

the individual."

Policy discourse deals with the possible; it requires information and analysis that is different in its specificity and foci of attention from more purely ethical discourse and from prophetic and narrative discourse as well. There are many pages of what is basically policy discourse in the material I have studied. After the oil crisis of 1973 and during its concern for nuclear energy the C and S material is replete with policy discussions which take into account alternative data bases, attempt to make refined distinctions of preferable alternatives, etc. Much of this material simply repeats what was, and is, available to the reader of both technical scientific literature and policy literature on these matters. E.g., The Bulletin of Atomic Scientists through these years provided very similar analyses, with similar alternative courses of action argued for and against.

The policy oriented literature from C and S through the years has different purposes, some of which are explicitly stated and some of which are implied. In some cases there are statements of general aims and objectives of policy with limited technical information about how those aims can be approximated and limited specification about the agencies in society which ought to be doing something to approximate them. In most cases, to show that relevant scientific and policy information and concepts are taken seriously, the writings are very technical and replete with distinctions. It is not easy to justify a policy preference on moral or theological grounds. In one case there is a proposal that the WCC should begin with the quandaries that scientists and policy makers have, and work from that base in the development of its literature; i.e. David Jenkin's contribution, "Problems of Biology and the Quality of Life," in Anticipation #10, pp. 21-29. "It is . . . proposed that the starting point for our investigation should be the prima facie problem-generating developments in some field or fields of the biological sciences" (p. 22). Here the practice of science both in its research and applied dimensions is the initiating impetus for theological and ethical reflection.

Consciousness of the ambiguities in relying upon technical expertise in the policy discourse is present. Indeed, efforts clearly have been made to invite contributions of persons who have different technical assessment of issues and different technical recommendations for policy. In this respect the WCC is in the same ambiguous position as any other groups that make specific recommendations of policy: on which technical data and interpretation does one rely? A practical question is that of the degree of specificity that recommendations from C and S ought to have, and what is the objective of specific recommendations. To whom are they addressed?

Conclusions

My purpose in this cursory analysis has not been simply to demonstrate the presence of the four varieties of moral discourse. To do only that would be trivial if it did not provoke further reflection on some questions I have raised. What are the relations between these four modes of discourse, in individual WCC materials in which all or most of them are present, and in the

larger task of research and writing in C and S? Are there appropriately different audiences for the literature, and thus appropriately different modes of discourse relative to these audiences?

I risk being presumptuous in the following suggestions. The persuasiveness of C and S literature to some readers, at least, would be stronger if different tasks and aims of different writings were clearer. I take it that there are two general audiences for the literature, the principal one is the member churches of the WCC, the other is those publics that are in positions of some power and authority to determine courses of action in human society. In this respect the literature has foci similar to those in papal social teachings and in the documents of various conferences of Roman Catholic bishops on issues such as the economy and war and peace. These two general publics have some overlapping membership; persons in the Christian churches participate agents in the determination of policy and action. This overlap includes not only persons of unusual power and influence, but Christian citizens participating through electoral practices and through voluntary associations.

The schema of this paper has modest heuristic purpose, I would suggest greater clarity of purpose, indeed, self-conscious statements of the purpose in the following ways (some of what I am suggesting is clearly present in the literature): 1) work that is clearly diagnostic of the issue deemed important enough for a study, with the prophetic intention to stimulate a persuasive sense of urgency about it among the members of the churches. Some of Professor Birch's papers would be good examples of this. My impression is that there is not a significant difference in the technical aspects of the diagnosis between those done by Christians and by others who publish in secular journals of opinion. 2) Work that through narrative and theological presentations makes a persuasive argument or some other form of presentation to show why Christian believers, by virtue of their faith, ought to be concerned about such issues. Here one assumes a loyalty to the Scriptures, the tradition and the community; one seeks to be persuasive by appealing to that loyalty. This kind of work functions to develop backing not only for the concern, but also for the dispositions and attitudes appropriate to the issues under discussion. As I indicated above, Falcke's article in Postdam is an example of this. 3) Work that develops quite rigorous ethical arguments based on defended values and principles pertaining to the selected issues. This should recognize the distinction between ethical and policy discourse that I have indicated. Such ethical argument can inform, but not determine the choices of persons making policy. There are different procedures for this kind of work; a time-honored one in the ecumenical movement is that of middle axioms introduced by J.H. Oldham and developed by John C. Bennett. But that is not the only one: Karl Barth's concession to "practical casuistry", Reinhold Niebuhr's dialectic between love and justice, the revisions of the natural law tradition developed by Roman Catholics or by K.E. Kirk, and others are also possible. I would argue that choices among these, while ultimately grounded in different theologies, should be a practical matter for C and S., i.e. which is persuasive to the intended audience. If the intention of C and S literature is more pedagogical than prescriptive, then its ethical materials

should be judged by their efficacy to teach and inform churches and persons about how to think ethically about the issues. 4) Work in policy ought to be illustrative since policy has to take into account quite specific contexts and technical information. There is merit in arguing out the policy implications of theologically informed ethical positions, but there is also merit in distinguishing between the degree of certitude one has between these two. For example, the American Roman Catholic bishops, in the Pastoral Letter on on War and Peace consciously distinguish between matters of ethical princple and the inferences they draw for policy; they are more certain about the first than the second. The use of papal social encyclicals often, at least, implicitly makes a similar distinction; the more particular outworking of the policy implications (at least in some of the encyclicals) has to take into account various particular social, national and cultural circumstances.

This paper is more a formal than substantive analysis of C and S materials. I have not done justice to the substance of any of the writings, nor have I noted many praiseworthy features of the literature. If the paper has utility value to the working group it has achieved my modest intention.

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THE SILENCE OF THE CHURCHES ON THE ENVIRONMENTAL CRISIS

Freda Rajotte

Modern Christian theology has found itself almost speechless before the size and complexity of the global environmental crisis. Science and technology, which produced the industrial revolution, increased agricultural productivity and seemed to promise an abundant future for humanity, have, instead, given rise to a global economic-military system so powerful that the survival of human life on this planet is in jeopardy. In face of the complex and interrelated ecological problems such as: holes in the ozone layer, acid rain, eutrophication of lakes, desertification, toxic waste storage, use of biocides, etc., Christian theology has been at a loss to formulate a position that does justice both to the new insights of science and to the centrality of the Biblical narrative and Christian experience.

The phrase "integrity of creation" only emerged from the Sixth Assembly of the World Council of Churches in 1983, replacing the term "sustainability". Yet, already, much has been written and many points of consensus appear to be emerging. A few of the more obvious points include the following:

1. There is acceptance of the ecological and new scientific insight into the holistic nature of creation: that in our small planetary system everything is closely interdependent: humanity, animal and plant species, animate and inanimate systems. Either all co-operate to survive or the alternative is MAD (Mutual Assured Destruction).

2. Ecological issues are among the most urgent and pressing that the global community faces. "Technically, ethically and religiously, we are confronted by a cluster of interlocking problems that threaten the very matrix of life, threaten humanity's future", [1] and the very survival of the natural world.

3. The absolute necessity for global co-operative action and debate has revealed the impossibility of any one vision, one dogma, or one section of humanity being able to deal effectively with problems on a planetary scale. Thus our theology is by necessity both ecumenical and involves us in dialogue outside the church. Our understanding and our own faith is immeasurably enriched by listening to those of other faiths and ideologies.

4. The in-depth ecumenical dialogue taking place within the churches is taking a new form. It is the product of teamwork rather than the work of individuals. Such theology can only come from listening attentively both to one another and to ecologists, economists and to those with a lifetime of scholarship, competence and experience (both within and outside the church).

5. Dialogue with the victim is essential: giving a voice to those whose land has been denuded, whose culture has been destroyed,

whose water and air are polluted, the wretched of the earth who have been marginalised by the world economy and left to scavenge the garbage dumps of the industrial world society.

6. This dialogue has already led to a radical rethinking of established ideas on the nature of creation and of the human place within it. The holistic understanding of the living biosphere of our planet demonstrated by ecology stresses the interdependence of all life. Human life is seen inclusively as belonging within the natural order. People form only a small part of creation in which the rest of nature shares. This is a sharp reversal from most of Western anthropocentric theology.

Paul W. Taylor claims that the denial of human superiority is "the single most important idea in establishing the justifiability of the attitude of respect for nature".[2] Why should the human species alone be exempt from the ecological checks that keep in balance the populations of all other species? Why should we consider our particular human capabilities are the ones and the only ones to exalt, while the capabilities of other species (qualities of swiftness, beauty, flight, nurturing of young, devotion, migration, instinct, affection, transformation, etc.) are inconsequential or inferior?

Recognizing the divine creation of all nature calls for a new awareness of the importance of the relationships between nature, God and people.

7. This attitude shows more humility than traditional Western theology and makes us more open to the value and integrity of others. We can learn from the spirituality of African and indigenous American nations. In fact it makes possible the opening up of new relationships with those whose spirituality differs from ours. We can have a new appreciation of each other that permits respect instead of domination - and is, therefore, self-revealing.

J. M. Magnuson described how "under the guise of paternalistic social policy and pietistic missionary zeal" (Canadian) native cultures were destroyed. But today the shaman is making a slow and tentative return. "He alone was responsible for maintaining the relationship between the natural, supernatural and human worlds". To hear the echoes of his song "means an honest acceptance of our lostness, and the courageous confrontation of the inner poverty of our own obsessively materialistic culture in search of a soul."[3]

8. If grace is seen as divine and infusing all of the created order, animate and inanimate, then all existence is called into being, sustained and receives its intrinsic value through divine grace.

9. The basic attitude of those who acknowledge God as creator is thus to acknowledge the intrinsic worth of the entire creation. Reverence for life, empathy, caring and nurturing (the feminine responses) are more appropriate than the (more masculine) responses of power and domination over our small planet, or

regarding it as a resource to be exploited, as a raw material for agro-industrial production, as a planet for the taking and to have dominion over.

10. Christian concepts of salvation and redemption are also being rethought in this new light. It is inadequate to think of the salvation of the individual out of a fallen world and corrupt society, but necessary rather to view the salvation and redemption of the world and of society including the individuals within it.

11. The growing awareness of our global village has many implications for us:

a. We are bound together by our common ecological dependence, our common humanity, by global trade and communication systems. Each person's decisions affect everyone else and affect our common futures. Thus a belief in our common creation by God should unify us, and any ideologies or doctrines that separate us are suspect.

b. The third world and first world are spatially inseparable. The third world, the victim, marginalized by society, living in despair and poverty exists both in Somalia and on the streets of Los Angeles, both in Bangladesh, the Bantustans and Canadian Indian reserves.

c. What we all contend against are "principalities and powers," vast military/industrial/economic complexes, whether capitalist multinational corporations or state parastatals, that are propelling the world's people and environment rapidly towards destruction and death. They are powers that invade all our lives, implicating us in aggression and violence that we would not choose as individuals: demonizing us.

12. Our rediscovered unity reveals to us that we are all both the exploiter and the exploited. We cannot dissociate ourselves from either.

a. Our involvement in the world economic order, in banking, travelling, eating wearing clothes, working, etc., implicate us in the guilt of exploitation and pollution.

b. As our autonomous societies are engulfed by global agribusiness, manufacturing and military systems, we find our land, our autonomy, our labour and our lives, culture and identity marginalized. We are not necessary to the system of wealth concentration. We become "peripheral" workers or "disposable workers", or unemployed and valueless and our lives fall into meaninglessness.

13. The Biblical narrative that is the source of our inspiration, is grounded in historical events in the real world. The messages of covenant, redemption, the prophetic call to justice, the offer of salvation, and the promise of the Kingdom of God, are as relevant to our present ecological situation as they were to the original writers.

The Biblical God is not remote and other, but incarnate and immanent and involved in our physical world. The confrontation of weak and powerless societies and the exploited and denuded environment with the violence of the military-economic complex of our global system is the same confrontation as that between Christ and institutionalized power.

Our shared experience in Christ, our shared humanity, our shared imperillment in an imperilled planet, will be received and responded to differently within different cultures, economic and environmental situations. Not only are the wretched of the earth "Christ in his most distressing disguise", but for some of us it is exactly in the desolation of Murorua atoll, the toxic and choking gasses of Cubatao, the dead river Rhine, the devastation of Kyshtym, the cloud of Bhopal, the death of Hiroshima, that the suffering and crucification of Christ confront us, convict us and challenge us to commitment.

Our task is not to terminate the world but to help sustain and enhance it and help the whole created order and humanity within it to become the Imago Dei.

It is exactly at this point that we as Christians discover that we do have a contribution and a valid input to make to the global environmental debate.

Four Examples of Ethical Environmental Issues

1. By overuse of the land, by forest depletion, erosion, salination and lack of care we are reducing the sustainable yield capabilities of global renewable resources. Productivity of world arable land peaked in 1976, forests in 1967, pastureland in 1976 and fisheries in 1970. This is large scale theft, we are stealing from our children and consuming now what should be theirs and adding to the exhausted land and sea a great burden of pollution. To the question "What man of you if his son asks him for a loaf, will give him a stone? Or if he asks for a fish, will give him a serpent?" Mtt. 7:9 we must reply we do, the bread and fish are already consumed only the stones remain.

2. Where once rivers flowed, gardens, vineyards and orchards grew and herdspeople pastured cattle, are now found barren, rocky hillsides, or the relentless drift of sand dunes. This destruction is a denial of the promise of the future, instead of working for the Kingdom of God we are destroying its possibility.

3. The indestructable nature of both matter and energy means that by discarding wastes, we are merely putting them in someone else's backyard. One area's smelter causes another area's acid rain. Evidence suggests that dust swept into the atmosphere over North Africa and carried Eastward, is a major factor in creating the Rajisthan Desert in India. These are examples of global scale violence and ultimately murder, as they destroy another's means of subsistence and health.

4. The rapid consumption of non-renewable resources (minerals and

fossil fuels) has allowed us to reach and temporarily sustain a combination of vast pollution and high per capita consumption for a few, that our renewable resources alone cannot sustain. As these non-renewable resources are depleted, their economic value will rise, thus:

a. intensifying their exploitation;

b. increasing the disparity in their distribution and consumption;

c. intensifying violence against the poor and the environment, to seize what is left (ignoring indigenous land claims and the political autonomy of small weak states);

d. converting arable land to substitute crops, such as the production of ethyl alcohol from cane, to replace petroleum;

This is taking the one sheep of the poor to feast at the table of the rich, 2 Sam 12:1-7.

If we are serious about the "integrity of creation", then we cannot avoid at least raising the issue of human population growth. The world population has grown from about 900 million in 1800 to over 5 billion today. This uncontrolled growth in human numbers is the single most destructive environmental factor, as people destroy and denude forest, wet-land, marsh, veldt, all the fragile and precious ecosystems of the globe, in what will ultimately be a futile quest, that of making a finite planet supply food for an exponentially expanding population.

Why has the church's voice on such critical environmental issues been so muted? Why do we lack a clearly articulated theology that does justice to both the ecological wholeness of our planet and to the Biblical narrative? Why has the church been virtually silent on such issues as marine pollution, ozone depletion, use of biocides, etc.? The following four points are among some of the complex and interrelated factors underlying this silence.

1. The Marginalization of God

Through Biblical and Medieval times the world was seen in a more unified way than today. The hand of God was seen at work everywhere and was present in all activity. This omnipresent God was involved in every detail of creation, in seedtime and in harvest. All creatures praised the Lord in whom they took their being, by whom they were sustained and fed.

> "O Lord how manifold are they works,
> in wisdom hast thou made them all." Ps. 10

> "Are not two sparrows sold for a penny? and not one
> of them will fall to the ground without your Father's
> will." Matt. 10:29.

It has been frequently shown how the evolution of the modern techno-scientific world view progressively eroded this position. "The

modern mind has its roots in detachment of the person from the phenomena of the world in order to observe and understand them" and thereby take control. Thus Francis Bacon established the scientific method, while R. Descartes extended mathematics into understanding how nature functioned, and I.Newton mathematically explained the laws of motion.

The mechanical paradigm of the world that emerged removed God as the explanation and force within the functioning of the world. The world that emerged was constituted of chemical matter, either organic or inorganic, that functioned according to precise mechanical forces. Human origins were explained by Darwin.

God, no longer needed to operate a mechanical world, was seen only as the Divine clockmaker who created the original design and then left nature to run itself. Mathematicians and physicists are now theorizing on how creation could have sprung into being out of nothing at the time of the big bang, while biologists discuss how life is probably universally present throughout galactic systems, and how, here on Earth, it probably appeared spontaneously out of the early "chemical soup" of the shallow seas, bombarded by solar radiation.

"Once Bacon, Descartes, Newton and others liberated God from running the world of nature, John Locke (and J.S.Mill) set God free from the task of upholding government and society." They argued that natural reason, enlightened self interest and utilitarianism would best serve all, a view "heartily condoned and blessed by Adam Smith in constructing economics without God",[4] (the invisible hand).

Louis Feuerbach even severed human hopes, desires and historical destiny from God, claiming them to be mere human projections. The last refuge for God was sought in the human psyche - our feelings, emotions, and inner self. But Sigmund Freud banished God from that domain.

Thus the modern, scientific mind-set in its understanding of the world, nature, reality, history and the self, has peeled away the necessity for, and the assumption of God's existence, or of God's relevance to anything that matters.

One result of this was the fundamental shift in modern Western thinking concerning the relationship between mankind and the natural world. Not only was nature desacralized, but also objectified and externalized. Human separation and alienation from nature became almost total, especially in urban areas, and human dominion reigned supreme.

The intrinsic participation of the observer in the phenomenon being observed was denied, leading to an arrogance that inferred that the entire world was available for observation, analysis, control, manipulation and exploitation.

Reductionism removed the necessity of considering relationships, so that air pollution or forest removal could be isolated from their impact on every other part of the biosphere.

"It was not so much Christian theologians who instituted the division of humanity from nature, giving technology free reign over nature, with such lamentable results, that division is rather the consequence of modern thought freeing itself from a religious perspective" with its ethical

imperatives and implications, "and setting out to manipulate and control the events of nature and the world."[5]

Added to this, environmentalists and historians have put theology on the defensive by laying the blame for this arrogance towards the environment at the feet of the church, claiming, with certain justification, that the scientific-modern mind-set took its origin in the churches position on the superiority of 'man' and his dominion over nature, and its suspicion of the worldly in favour of the spiritual.

To heal this disastrously broken relationship between God, nature and humanity, it is necessary to re-affirm the wholeness of creation, and mankind as within the ecologic unity of the biosphere. Here the theological tradition of the Orthodox churches, and the experience of Christians in Asia and Africa, who never succumbed to this division, have a wealth of insight, wisdom and experience of the unbroken unity of creation.

Instead of a God marginalized to unimportance, who is irrelevant in the real world, God becomes the life of the world, the central fact of existence, the means of salvation and redemption of the world, the heart of our unity binding us into the one reality of being, the promise of what creation can become, not only for the individual but for the society and for the entire planet Earth.

2. The Separation of the Sacred and the Profane

Science produced an impressive record of discovery. The technological implications of this increasing knowledge dazzled the world, from the internal combustion engine to nuclear fission. It appeared to offer humanity a solution to all its problems and a golden utopia.

As science and technology captivation the hearts and minds of people and as God was progressively marginalized from the world of physical reality, so a division appeared between the sacred and the profane. There was no longer a place for God in the real world which was governed by predictable forces, whether these forces where physical forces or market forces, social, political or military forces. Eventually the laws governing them could be discovered, and ultimately controlled and subjected.

Conveniently, the sphere of God's activity and power was restricted to that of the sacred, and did not extend to the real world where important issues of economic and political power and exploitation of nature held undisputed reign. The two spheres were seen as mutually incompatible. The denial of God and the destruction of the environment go hand in hand.

The Critical Division:

- The Word of God, the Bible	- the word of science, nature
- Knowledge by revelation	- Knowledge by experimentation
- variety of theologies	- consensus verified by application
- dogmatic statements	- provisional hypotheses
- faith	- reason
- the church	- the world
- priesthood and clergy	- laity and experts
- sphere of prayer	- sphere of work
- sacred or holy	- secular or the "Alltag"

This division into the sacred and profane did at least two things:

1. Firstly, the desacralized earth could be regarded as a "resource" (a factor in the production process), or as a commodity to be purchased, traded and speculated, while people became "human resources" or a source of cheap labour for the world factory and for the world farm of our global production machine. The bottom line became economic profit and political power.

2. Secondly, the voice of prophecy, the calling to repentance, and uncomfortable ontological questions on the purpose of existence and relationships between people and the environment were relegated to the sphere of the sacred, where they had little impact on the "real" world.

In order to effectively address secular issues, God must be released from captivity in the institutional churches, Christ needs to be seen to be in and for the world.

If Christians had the same reverence for all life and for all creation that they have for religious objects in church buildings, they would respect its inbuilt limits and carrying capacity and not tolerate its wanton destruction. Pollution would be seen as desecration.

There can be no legitimate separation of the sacred and the profane, for "the earth is the Lord's and all they that dwell therein", and we all participate in the sacrament and mystery of life. The doctrine of the Pantokrator, the Logos as Lord of All, may lead us into a renewed and dynamic Christian sacramentalism.

3. Complicity of the Churches in the Dominant Power Structure

Many ancient empires seized power and subjected conquered peoples, but they did not have the technology to span the world. Dorothee Soelle compares the Pax Romana with the Pax Christi. The Pax Romana "consisted of a centre, which was Rome, and a periphery, made up of the conquered provinces. In the centre of this world order there were material abundance, greed for new goods and pleasures, immorality, psychic emptiness and lack of human feeling. On the edges of this order, in the dominated provinces, there were unbelievable misery ... an apathetic hopelessness existed among masses of impoverished people."[6]

The science-based technology of the eighteenth and nineteenth centuries provided the steel ships and the rifles that were used to entrench (what was in its original form), a European based economic/industrial colonialism upon the world. This system has passed through stages of: 1) pillage, 2) political colonization, 3) economic or neo-colonialism, to form the present, 4) world-spanning corporate organisations that control production, distribution and consumption, fix prices, organise surpluses, and eliminate competitors.

The euphemistic terms "growth" and "progress" were used for "rapacious greed" and "ruthless exploitation". Freedom (a much maligned word) was often seen as the individual's freedom from social and religious responsibility and restraint, -- freedom to exploit, to dominate, to seize the commons of mankind's perpetual heritage, and plunder the planet - rather than as freedom from exploitation, violence and domination.

Unfortunately the zeal of the Christian missionaries went frequently hand in hand with the process of pillage, colonization and economic exploitation. The Bible, the rifle and trade beads arrived together.

Unfortunately many missionaries, church leaders, and members belonged to, and still do belong to the dominant world society whose complicity in the systematic disintegration of world-wide weaker cultures, economies, and sacred traditions, and plundering of the physical environment, we have not yet fully realized or comprehended.

J. Carmody points to "the alliance of certain Christians with exploitative capitalism, the veneer of religion painted over making money in many business successes can produce a line of 'ugly Christians' come into the natural and social world to rape and begrime".[7]

For the church's voice to be credible:

1. It is necessary to disassociate itself from triumphalism and self-interest. It can no longer be arrogant or authoritarian, or measure its success in business terms of 'growth in numbers' or 'wealth'. It is necessary for us to redefine ourselves as 'the grain of salt' that must dissolve to give flavour, as the church called to give itself and to die for the world.

2. Eco-feminism (a term used by Francois d'Eaubonne in 1974) "is a response to the perception that both women and nature have been devalued in Western culture ... the earth is being dominated by male-controlled industrialization, technology and science. Women are being dominated by the complex of social patterns called capitalist patriarchy."[8] Complicity in this subjugation is not compatible with credibility.

3. Day by day "we struggle not against flesh and blood but against principalities and powers, against the world rulers of this present darkness, against evil spirits in heavenly places." Eph.6:12. These principalities and powers are neither mythological nor benign. Liberation theologians point to "the immense control exercised by institutions and social structures. In the Bible, however, the principalities and powers are a welding of spiritual and material factors. Spiritual powers compete for sovereignty over the world and for the loyalty of human hearts; and these spirit powers are encountered in material or institutional form."[9] They are found in the massive and dehumanizing multi-national corporations, state parastatals, and military-munition complexes.

4. <u>The Tension Between Belief and Praxis</u>

Beware of those crying "Peace, Peace, when there is no peace." Jer.6:14. Unfortunately the institutional churches come from a long history of violence and bigotry, from inquisitions and witch hunting, from the cultural and actual genocide of peoples in the Americas. "Bandi claims that the ruthless power wielded by the church and other religious institutions over the centuries leaves these institutions morally bankrupt."[10]

The churches are still regarded by many with deep suspicion because too often they lag behind secular authorities in accepting human rights, and

in respecting the equality of all people: women, homosexuals, Jews, religious and ethnic minorities, and indigenous nations. The churches are experienced by many as more a part of the problem than as a part of the solution.

"The ecumenical process which generated commitment to covenant for Justice, Peace and the Integrity of Creation is dynamic, global, based on consensus, and must be broadened and deepened."[11] However, it is not the production of a definitive theology or statement of JPIC tht is required, but participation in the day-to-day struggles of all people who oppose the inequitable and destructive forces in the world.

In a real way the role of moral leadership is now with the thousands of activist groups who are opposing militarization, nuclear weapons, environmental degradation, dam construction, hunting, toxic waste dumping, and the many forms of violence that are destroying the life of our planet.

Our theology is an upside down theology: it is a listening to those at the bottom, for that is where Christ is to be found. It is a theology of empowering the weak, for "many that are first will be last, and the last first." Matt.19:30

We cannot, now, rush to defend life as Peter rushed to defend Jesus, for the struggle is non-violent and non-aggressive. "Put your sword back into its place, for all who take the sword will perish by the sword." Matt.26:52

It is the powerlessness of the women at Greenham Common that is their strength. It is their economic and political total powerlessness that is a reporach to the military force confronting them, revealing it as the ruthless power of death and domination that it is. So it is with the churches, it is only when we have nothing that we are invulnerable. As long as we have something to protect, whether property, respect, authority, dogmas or creeds, then we are not free to confront the powers that destroy and to be for creation. The price of protection is very high, it is the ultimate price of complicty with the powers and principalities of exploitation rather than identity with the victim.

The commitment is no light matter, it is total. Superficial debate on environmental issues, like token financial aid, can merely help us to evade the deeper terror of the realization that we are participating in a crime of monstrous proportions, that of planetary exploitation.

It has been pointed out that the economic violence inflicted upon the exploited and upon the environment is equal to two Hiroshima bombs being dropped per week. The war between the dominant society and the oppressed is going on right now, it is the war between the rich and the poor. The casualities average 15,000 - 20,000 per day, mostly children, who die of hunger, environmental degradation and land loss.

Something deeper within us all has been violated,

- in our redundancy and impoverishment

- in the desecrated environment, dead rivers, extinct species, destroyed forests,

- in the complicity of all of us in a system that we are afraid to examine, for it will reveal within ourselves our own greed, rapacity, our desire to own and have, to conquer (space, time, the material environment) and to protect this privileged inequality with weapons of trade tariffs, debt service ratios, inequitable commodity pricing policies, wage differentials, nuclear stock piles, cruise missiles and the terror of global destruction.

To those who are actively involved in JPIC covenanting and action, the means is now far more important than the end. It is the way of shalom, the way of Pax Christi, it is not aggressive, non-violent, not arrogant nor domineering. It calls us to relinquish not defend. It calls us to covenant with the powerless and the rejected and to align ourselves with the whole fragile, assaulted and vulnerable ecosphere - the sphere of God's creative love.

Perhaps we are called to the role of the midwives Shiphrah and Puah, who not only helped at the birth of Moses, but withstood the political authority of Pharaoh, to preserve and nurture the new life. So we are called to protect and nurture the living biosphere of our small planet.

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DRAFT MANUAL
ON CHURCH ACTION FOR JUSTICE, PEACE AND INTEGRITY OF CREATION

Submitted to the Glion Meeting
of the Church and Society Working Committee
for Discussion

Mady A. Thung

Contents of present draft

I. Introduction

Questions

Case studies

Handicaps of religious concerns

II. (Example of a case) The case of church responses to unemployment in some West European countries.

Description of the project

1. Choice of target problem and ways of responding.

2. Choice of ethical position and accompanying strategy.

3. To what extent was the co-operation and support from church members obtained?

4. The motivations, expectations and goals of action.

I. Draft Introduction to the proposed Manual

"The churches can and should play a key role in the ethical control of scientific and technological activity."...

"The revolutionary social processes of the present must be viewed together with the problems of the scientific and technological revolution" ... "We appeal to the member churches of the WCC to promote study and action on these problems by (a) encouraging scientists and technologists to consider the ethical implications of their work, and (b) training pastors to give theological and administrative leadership to their congregations in understanding these problems and implementing study and action on them" ...

"We call on the churches to exert their influence on curriculum planners to ensure that an adequate number of courses on the ethical implications of science and technology are included in the curriculum of each science and engineering student"...

"National church councils with the support of local Christian communities should work with other concerned groups to influence national policies with respect to ... establishing national guidelines for obtaining and maintaining adequate levels of health care for all citizens" ...

"We call upon the member churches of the WCC ... to foster and give priority to sustainable agriculture in both developed and developing nations, and to strive for policies of land use and management which give maximum yields without depleting soil fertility" ...

"Member churches of the World Council should educate themselves on the issues of the (world) commons, most immediately the exploitation of the sea-bed, and support the international endeavours" ... to ensure an equal share for all nations in its management. Stewardship of the ocean is needed which implies the use of its wealth for today's poor as well as the conservation of resources for future generations, the preservation of the marine environment and salt water species (summarized).

"We recommend to the churches that they ... engage in a constructive and critical analysis of the national and international energy policies of their own countries" ...

"The Church has a role to play in the struggle for a just society. It should support collective bargaining and other forms of worker participation, pressure governments to enact laws which protect worker interests, promote the eradication of poverty, seek to keep before people the global perspective, and long-range strategies"...

This inventory of recommendations as to what churches are supposed to do in the field of pressing socio-economic, environmental and political problems, is a tiny fraction only of all the appeals regularly addressed to them. The recommendations above are selected randomly from the report of the Boston conference "Faith and Science in an Unjust World", (Vol. II, Geneva 1980, pp. 25, 28, 38, 48, 67, 75, 79-81, 101/2, 112); it contains many more of them. So do scores of other reports from ecumenical gatherings, as well as meetings of concerned church members at national or local levels.

Are expectations that churches may have an impact on issues like those mentioned above - scientific and technological developments, curriculum, the distribution of health care, soil management and the development of agriculture, the exploitation of the sea-bed, etc. - realistic at all? Are those who make appeals, aware what principalities and powers are deciding such issues and in what way they may be influenced?

To mention an example: In the Netherlands the churches have indeed given a strong stimulus to organization of a nation-wide debate on energy policy. An ecumenical group of engineers and theologians, inspired, i.a., by the WCC's debate on nuclear energy as led by "Church and Society", gave the impulse. After two years of public hearings, enquiry into the prospects for a future economy with and one without nuclear energy, it became clear that a small majority of the population opted for the latter: a non-nuclear economy. Many church leaders and members (not all, though) were pleased with the outcome.

That was in 1983. By that time a new government had come to power which strongly favoured the development of industry and technological growth. After a few years of successful reinforcement of business, it started to raise the issue of the future energy need. In spite of strong protest from all those who had participated in the nation-wide debate, it gradually managed to get the public accustomed to the idea of building new nuclear power plants. Until Chernobyl came and - an important coincidence - new elections were at hand. The former proponents in government of nuclear power started to talk hesitatingly: we cannot decide now anymore for building these plants; we have to reconsider the dangers and advantages. An international commission was invited to inspect one of the Dutch nuclear power plants in operation; it observed many defaults. Temporarily the government heeded the warnings that had come from - i. a. - concerned church leaders and members. But was this due to these people's efforts? To Chernobyl? Or to the elections? And how long will it last?

The church-related peace movement in the Netherlands is another example. It caught the attention of the international press because of its efforts to make this small member-state of NATO deviate from the NATO armament programme. The Netherlands were to refrain from stationing its portion of the new generation of cruise missiles. More than three years of campaigning and nation-wide demonstrations did not prevent the government, however, from signing a treaty with the USA for entering the missiles. At present the movement is split and frustrated.

There are - of course - stories to the contrary. The Vietnam war lasted longer and was more cruel than was expected at its beginning. But it would have been worse, had it not been for the active campaigning for peace, by, i.a. churches in the USA and abroad. Today the whole world witnesses the impressive leadership by church ministers of the liberation movement of South Africa and of Latin American countries. It seems quite certain that this will have an important influence on processes of change in these countries. On the other hand, the churches in these continents are divided between and among themselves with respect to the issues at stake which, of course, very much hampers the effectiveness of the Christian witness as such.

It is against this background that some members of the Working Committee

of "Church and Society" wish to present a few cases of church action with respect to pressing social ills, in connection with a few reflections on the opportunities and hazards of such action. This opens up a vast field of questions which will briefly be exposed here. The cases and the accompanying reflections will by no means answer these questions; they are meant to stimulate Christian thinking on them and to deepen our understanding of the church's existence both within and in face of society. This - it is hoped - will help member churches of the WCC to decide when and how to engage in social action and to do it in such a way as will bring about as much relief of the target ills as is possible.

Questions

One area of questions concerns the theological understanding of the relationship between Church and World, the degree to which struggles for secular well-being can be identified with witness to our understanding of the Kingdom of God, the degree to which many historical churches have fallen short of their mandate in this respect by leaving these struggles to secular liberation movements and even combatting these movements, the implications of this latter problem for our understanding of the relation between empirical churches and the Body of Christ, etc.

The present series of case studies does not go into these questions. It is set up in accordance with the WCC's tradition, as presently expressed by the phrase "Justice, Peace and the Integrity of Creation". That is to say, it presupposes, that there is a relationship between struggling for secular well-being and witnessing to the Kingdom. It also takes it for granted that the closeness of the relationship is subject to a theological debate which cannot be settled by case studies. It suggests, however, that case studies and reflection on what is possible in practice adds an empirical dimension to this debate. What its importance is, will be discussed in the epilogue of the present study.

Another set of questions concerns the relationship between Christian (or church) struggles for liberation - of oppressed people and, as we know today, of the exploited environment - and the struggles of non-christians. It has to do with questions as to whether there is a Church outside the empirical churches, how the latent and the manifest church relate, whether and to what extent God's redemptive work is visible outside the churches. Case studies will not settle these questions either, but they may show various possibilities as well as impossibilities for theological interpretation.

Instead of the theological questions above the main focus of the present approach is a practical one. Or - to put it in a somewhat scholarly way - while the questions mentioned above are dealing with church-and-society issues by means of a deductive approach, the present study employs an inductive one. If related to what churches or Christian groups are actually doing, both approaches may be seen as types of "reflection-in-action" and represent part of what in the Working Committee has become known as the "Bossey Circle".

Which questions, then, are the present case studies addressed to? Taking the very problems in society as a starting point, the primary focus is on what churches actually are able to do, what means they have at their disposal, what problems they come across in social action and how these might be avoided, overcome, or ... abided as part of the struggle. As

was stated in the Bossey report, an important part of this exercise is to learn to make adequate distinctions: majority churches have other means at their disposal and other handicaps than minority churches; the denominational tradition in ethical thinking and in administrative structure may be of influence, and so the composition in membership may be. Important is the social, political and economic context. How does a church relate to the state, how much freedom and financial leeway does it have? What other agencies in society are tackling the problems and how successful are these? How powerful are the opponents and which interests are at stake? All these - probably trivially looking, down-to-earth but very tough - factors have an important impact on what churches may actually accomplish. Considering these will put choices before the churches, e.g. whether to tackle all the major problems of their society or tackle a few - by way of an example - and point to the others as equally urgent but not practically manageable any more. It raises the question of how to use their means in the most fruitful way, how to mobilize more means and whether or not to co-align with other agencies in society. And it finally brings back the question of what results can be expected from church actions in various cases and what - in this connection - the deeper motivations are for making the effort, raising the theological questions again this way. Thus - the authors of the Manual hope - the churches' reflection and action will both be improved.

Case studies

In accordance with the present focus in "Church and Society" on the problems of technological developments and their impact on the environment, the Working Committee chose five cases to deal with in the present Manual. In order to make them comparable, it was suggested that the Working Committee members who were to describe them, would try to follow more or less similar frames of analysis in their presentation. Therefore, a tentative frame of reference is laid out below. It will be improved and refined in the course of the study when successive authors discover that there are other or more aspects to their case than are mentioned here.

A short excursion on opportunities and dilemmas of church action is needed first, in order to develop the scheme of analysis. We suggest that churches may have an impact on actual developments:

1. by setting examples of new ways of life and work themselves,

2. by exerting direct pressure on governments, business or other powers, by such means as lobbying, campaigning, other publicity, or silent diplomacy,

3. by injecting more or less authoritative opinions into the public arena which may influence public opinion,

4. through the activity of their members, laymen and women in their own right, working from specific positions in society, each in their personal roles, or concertedly in informal circles and movements.

Each of these means has its own advantages. Moreover, in a world filled with the most diverse power centres, interest groups and pressure groups, none will be very influential unless working in coalition with other

powers. The best chances, therefore, to effectuate changes in accordance with christian ethical thinking, are present when churches work through all the four means and co-operate with like-minded allies as well. To mention a concrete example: a church that would stimulate attitudes of respect for nature and prudential use of natural resources, will be heard better to the extent that its appeals are endorsed in public discussions by its combined membership, and more so if its prominent members in government boards, business enterprises or political parties work along the same lines. But it may have to seek allies nevertheless: representatives of other religions, trade-unions, political parties or whatever. And even then the struggle may be hard and hopeless in the short run.

In this a church is no exception. Any movement or group of concerned people who enter the field of economic and political power struggle, for the sake of justice, peace, protecting the weak as well as the defenceless ecosystems of nature, will meet with powerful and violent opponents. But churches have to cope with additional handicaps, which follow from the fact that they are rooted first and foremost in religious concerns.

Handicaps of religious concerns

Churches are not and should not be anything like to political parties. People belong to them for reasons of custom or religious convictions. That means, unless from the very beginning they are familiar with the idea that social-political concerns are part of their faith, it is not self-evident for them that their church should enter the social-political scene. On the contrary, each may have formed his or her own view on social problems on his or her own political conviction. Social research teaches, how many non-religious factors are at work in this process of political attitude formation: pre-conditioning from one's family background, the influence from friends and relations, subtle pressures related to one's interests and position in society, fragments from public discussions in journals or broadcastings which one happens to absorb, etc. If the adherents of a particular church come from different social backgrounds, there is more chance for disagreement among them on politics and social problems, than for agreement. If they do relate attitudes in this field with their faith, it will be intuitively rather than consciously thought out.

Educationists and social scientists, therefore, suggest that discussion and teaching social ethics should explicitly be furthered in the churches. Lay training centres and "church and society" programmes have often done so. In many cases these have drawn more attention from critical, somewhat marginal adherents than from the core of church-going members. So far it does not seem that these programmes have reduced disagreement, nor do they seem to have established links with programmes of church action. On the contrary, there is an example of a Dutch church which had made an official statement on cruise missiles and only afterwards felt the need for an intensive discussion programme on defence policy, since a storm of protest had emerged from part of its membership.

Nevertheless, if systematically furthered, also among the core of church-goers, education programmes on socio-political problems may be an important asset for any church effort to work for a better world. It raises the chances that the members support such efforts and that these

become actually effective as a consequence. It does not exclude, however, that tensions persist. There are other difficulties in fact.

One is closely related with the question whether a majority or a minority church is involved. Social scientific literature abounds with discussion about this problem. It is related with a fundamental question, viz., what the possibilities are for developing a truly Christian form of political practice and political leadership. There are many basic notions in the Christian heritage, such as those in the Sermon of the Mount, that are impracticable in politics. In politics one cannot refrain from struggling for power, resorting to violence at times, acquiesce in more or less social and economic inequality, give in to the motivating power of self-interest. Thus there have always been groups in the history of Christianity which have shunned politics and have tried to live a peaceful life within a community of their own, often sharing possessions and living a simple or even ascetic life in isolation.

But these have usually been small; in the Catholic world they are to be found among the religious orders, in the Protestant world among the so-called "sects" (the term is used in a neutral, non-pejorative sense in social scientific literature).

Sometimes, the simplicity and peacefulness is temporary only. A monastery can become rich, rigid discipline is often needed to uphold the original life style; in sects the new generations may become wealthy and abandon the earlier rules. Dutch Mennonites, e.g., became wealthy precisely because of their asceticism and thriftiness; consequently disputes arose about the question whether it would be allowed to decorate their houses and use attractive clothes. English Methodists who became wealthy in the USA, abandoned the prohibition to wear jewellery, e.g., comporable disputes have occured among "sects" about whether or not to co-operate with the state, and enter state functions, especially military or police jobs.

If "secular" tendencies like these become accepted, the faith of such, initially radical groups comes nearer to that of the opposite form of Christian community which in social analysis has often been called a "church", or "national church". This is the type of Christianity which historically coincides with the life of a people or a nation and has therefore accommodated to both the good and evil of its culture. It often co-operates with the government and compromises with such universal phenomena as war, economic greed, social inequality or oppression even, privileges of the powerful, etc. And - as is well known - there are many examples, in history, of Christian legitimation of such conditions, or theorizing about the conditions under which they are acceptable (such as the doctrine of the "just war", or present acceptance of nuclear deterrence on condition that the time is used for attaining disarmament).

In between the extremes of radical "sect-like" positions and accommodating positions of "national churches", there are many transitional forms of Christian community life, accepting one kind of compromise (e.g., on war or violence) and rejecting another (e.g., on divorce or abortion). And there are developments from one type to the other. In historically national churches in the West, e.g., one may now witness a move from more accommodating to more radical views on social and political problems. The Anglican report "Faith in the City" which criticizes the devastating effects of the government's economic policy on

poverty stricken areas in the cities, is a case in point. It does not prevent this church from entertaining close relationships with the same government, and co-operating at times or giving advice.

This variety of positions opens the possibility of many types of ethical reasoning. So, apart from the fact that members usually will disagree very much about politics and social affairs due to their various social backgrounds, a programme of education and reflection on these issues will confront them with different possibilities of ethical choices. There also is the problem that it is very difficult to judge what actually can be achieved in the midst of power struggles. Much expert knowledge and social analysis is needed for which churches often lack expertise, and even then many uncertainties remain. Thus, it is understandable that church action for the solution of huge problems such as the present environmental pollution, exhaustion of resources, inequality and oppression in the relation between peoples and groups, the armament race and militarization, etc., meets with much difficulties which we may now list as follows:

1. How do churches decide on which problems they should focus, how many they can tackle, how much and what kind of efforts they should make, in order to cope with each particular problem?

2. How do they decide on the position to be taken: a radical and critical ("sect-like") one which may only be supported by a small minority, or a moderate ("church-like") position which may obtain more support at the expense of being less impressive? To what extent have they been able to use the best expert information possible before deciding on one position rather than another? Did they design any strategy and seek coalition with other agencies, in order to obtain results?

3. How do churches mobilize the affirmation - and preferably cooperation and active support from their members, so as to make as much impact as is possible?

4. And finally, how do they cope with the possibility of ineffectiveness, failure, exposure to miscalculation and how do they react to unexpected success? Is it important in this respect, how the expected results were assessed before and in what way members were motivated? In which way was the relationship with their proclamation of eschatological hope presented? To what extent was the practical work on the social-political scene done with the presumption of doing God's will, or - contrariwise - with the modest explanation that it is indeed an utmost effort to do the right thing, but one that was made by fallible people who may be mistaken and trust in their God for the outcome?

With these questions in mind, we suggest that in the case studies the following aspects should be traced, if possible:

1. The way of singling out targets for church action (which often involves that other targets are foregone) and means of action.

2. The ethical choices made, the way of analysing the problem, the strategies for action, the allies chosen in the arena of political and economic power struggles.

3. The degree to which the members were informed and their cooperation or support was ensured.

4. The motivations, expectations and goals of action, as experienced by the leaders and workers, and by the members who were to support it.

The latter point raises the fundamental theological questions again.

II. The case of church responses to unemployment in some West European countries

Mady Laeyendecker-Thung

Description of the project

Owing to a private foundation*, the Multidisciplinary Centre for Church and Society (MCKS) in Driebergen, the Netherlands, was able to employ a secretary for one year for making an exploratory study on the way in which churches in Western Europe responded to the unemployment crisis that has become a permament feature of their countries even since the 70's. After a tentative overview of numerous church statements, pamphlets, reports and descriptions of church activities, it appeared that in one year only the activities of a few churches and church bodies could be examined more closely. These were:

- the Church of England
- the Church of Scotland
- some Interchurch organizations in the United Kingdom
- the Synod of the Evangelical Church in Germany (EKD)
- the EKD Chamber for Social Order
- the Evangelical Church of Westphalia (its Synod; its Social Responsibility Office)
- the (ecumenical) Council of Churches in the Netherlands
- the (interchurch) Industrial Mission " " "
- three (interchurch) local projects " " "
- the Reformed Churches in the Netherlands
- the Netherlands Reformed Church.

One of the purposes of the study was, to compare various possibilities of reacting to such a serious problem as massive unemployment. This might enable churches to learn from one another and to reflect on their possibilities and limitations.

The material presented in the survey was quite diverse: there were statements made by synods and recommendations as to what governments, business firms, trade unions, local congregations or individual church members might do. There also were projects and intitiatives of all kinds, ranging from the creation of "drop-in centres" - where people may get help and advice on personal problems caused by unemployment, to schemes of job creation. But it was possible to discover a pattern in all these reactions which led to ordering them according to the type of ethical choice that was involved (implicitly or explicitly)* It will be exposed in the section of the present summary which primarily focusses on the four main questions of this Manual. It should be borne in mind, however, that the report "Unemployment: Work for the Churches" does not deal with one church, but makes a (tentative) comparison between churches. This comparative approach will return in

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* Haëlla Stichting, The Hague; some additional help from other sources. The survey is called Unemployment: Work for the Churches, by D.G.A. Koelega, 4 Vls.; contributions by J.A. Fun and H. Noordegraaf, MCKS; PB. 19, 3970 AA Driebergen (1986).

dealing with the four questions.

1. Choice of target problem and ways of responding

"In the reports, as well as in the resolutions, there is not much explicitly said about the reasons why the Church of Scotland is interested and involved in social and economic issues like unemployment", the author of the MCKS inventory, D.G.A. Koelega, states (Vol.II, p.67). This may also be remarked about the other churches and church bodies dealt with. The General Synod of the Church of England endorsed a report which started by referring to "the inadequacy of attention given in the past by the churches to economic and social questions" (Vol.II, p.15). This was to be repaired apparently, but there was no indication of the reason why especially unemployment was to be dealt with by the churches.

The general impression is that churches started to pay attention to this specific issue by the time it became commonly recognized in their society as a major problem. Among the churches reviewed in the inventory, the Church of England was the first to issue a statement (1972) and this may be very much related to the fact that both unemployment and poverty emerged before the first oil crisis already in the U.K. The Dutch churches were the last to respond and indeed, in the Netherlands mass unemployment did not become apparent before approximately 1980. That in Western Germany the Evangelical Church of Westphalia was very active, was certainly related with the fact that it is working in an industrial area which was hard hit by unemployment.

But there is more to it. The inventory shows that - as far as responses by national churches are concerned - very much depends on the advisory boards a church has at hand. The Church of England was stimulated very much in its declarations on unemployment by the Board of Social Responsibility, the Church of Scotland by the Committee on Church and Nation, the Evangelical Church in Germany (EKD) by its Chamber of Social Order (Kammer für soziale Ordnung), etc.

Furthermore, particular church traditions play a role. The Reformed Churches in the Netherlands (Gereformeerde Kerken), e.g., very much hesitated to intervene in political problems and discerned, in a memorandum of 1985, the ethical, political and practical aspects of the unemployment crisis. The church should occupy itself with the ethical aspects, such as a just division of work and of income. Recommendations on policies should be left to political organizations. This is in line with this church's tradition which has traditionally left politics to a related Christian political party of which the membership overlapped very much with its own. Nevertheless, in 1984, when discontent about the enduring unemployment became stronger in the country, the Synod did declare to be in favour of shorter working time and the re-distribution of work, though in somewhat hesitant terms. It also recommended a policy of full employment, partly by creation of 'caring tasks' in the service sector. It also was against a slowing down of the process of automation, because in the long run this will lead to even more job losses because of international competition (Vol. IV, pp.43, 46/7).

*This is explained extensively in Vol. I of the report: "General introduction and summary of results".

Summarizing, one may say that the question whether or not unemployment was the problem with which the churches reviewed here should be concerned, (rather than, say, the type of industrial production their country would need, agricultural overproduction in the E.G., or town and country planning, to mention just a few other problems), was discussed very little. The choice seemed to have been made more or less by intuition, by the time public opinion began to feel that it was one of the main problems of the period. If this is correctly perceived, it may suggest a weak point in church action. Those churches that are concerned about acting on social issues at all, may well be tempted to tackle whatever catches their attention, without much planning as to what their competences and means are, their particular contribution to the problem at hand, and whether they have the means to engage in the type of long term effort which is usually needed to alter anything at all in society.

Another question is: what is an adequate way of dealing with such huge problems as massive unemployment? "Churches can do three main things...", one of the reports of the Church of England said: (1) understand the problems, (2) urge others to action, and (3) take action themselves (Vol. II, p.24).

This seems quite general but some thirty suggestions were made as to how to do this, e.g.: organizing public debates with trade unions, chambers of commerce, local authorities, voluntary agencies, schools, etc., put pressure on representatives in parliament, provide personal help to unemployed, etc. As a matter of fact, it appeared possible to analyze the material in the survey according to these tasks:

"understanding" which implied:

1. making an analysis

2. reflect theologically on the various aspects

"urge others to action":

3. making recommendations on the policies of governments and other powerful agencies

4. making recommendations on what churches may do

"take action":

5. national, regional and local programmes of help and service; smaller or bigger projects and initiatives.

In other words: the churches certainly were not powerless, according to this survey; they themselves saw possibilities and means for action. An important question, however, is, how to use these. This leads to the second question of the present Manual.

2. Choice of ethical position and accompanying strategy

As exposed above, ethical positions which churches may choose vary from the extreme of accommodating to the culture of their time and place to the opposite of rejecting it and living an isolated life. There also is

a second opposite to the accommodating position, the extreme of protest and criticism to the prevailing culture and political life. In social analysis the first choice has become known as "church-like" (e.g., the choice of national churches; the two last choices are usually called "sect-like".

Among the church reactions to unemployment surveyed here, the same variety could be found. The analysis in, e.g., synodal statements, the theological reflections and the recommendations to government, employers organisations or other powers, sometimes revealed a basic acceptance of the prevailing culture. In that case these agencies were urged to be as effective as possible to find solutions in terms of that culture. Church action of this type often amounted to help to the victims of unemployment and involved stress on the diaconal role of the Church.

Interestingly, most of the synods described in the inventory, started this way. The Evangelical Church in Germany (EKD) is an example. By the time unemployment began to grow, it pronounced its concern for the victims and stated that people have the right as well as the duty to work and that those responsible in our society have the task to create jobs (Vol.III, p.3/4). Investments (especially in the public sector and in favour of developing countries) were required from them as well as introduction of shorter working times. Apparently there also was an appeal to the labour force: flexibility in the acceptance of work, and moderation of wages were recommended. Churches in their turn might help by creating more jobs in their own organizations. They also ought to develop comprehension and provide means which will give the unemployed a sense of belonging to the community.

There were opposite church reactions as well, indicating that churches recognized a relationship between the unemployment crisis and the economic system including the problems of world-wide inequality, mass poverty and the environmental crisis. These reactions usually implied awareness that these problems are also related to the peculiar western work ethic, with its high esteem of hard, sustained and disciplined work. They also imply criticism towards the way in which the distribution of income and social status is tied to the job system. What is more, the whole life-style connected with this pattern, is criticized. A representative is the Council of Churches in the Netherlands. It published a booklet in 1980 which contained radical ideas on long term and fundamental changes in the socio-economic system. Some of these ideas were, for instance, in favour of selective economic growth, ... world-wide redistribution of work and income, e.g., by means of better prices for products from Third World countries, ... a working day of five hours, a so-called basic income for everyone in society, a general duty to do social service work and a duty for all women to do paid work. In a publication of 1985 the Council tried to link the criteria of a "just, participatory and sustainable society" to the situation of mass unemployment. This publication contained some more short-term proposals, which necessarily were less radical (Vol. I, p.37).

In the inventory these opposite church responses to the unemployment crisis in Western Europe were characterized as subsequently "relief-type" and "transformative type" responses. It is easy to recognize the difference between "church-like" and "sect-like" positions in these two responses. The "sect-like" positions in this case, were not those of world-avoiding Christians who tried to develop an ideal community of

their own in isolation from the evil world. The "sect-like" position of those who reacted to the unemployment problem in a "transformative" way, was of the critical type; it tried to further radical changes in society, also in its own doings.

These different positions were recognizable - as was said above - in church statements or other publications on unemployment which usually contained analyses of the problem, theological reflection and policy recommendations. They also led to different practical projects. A characteristic "relief-type" project would be a drop-in centre, with facilities for sports, reading and other leisure-time activities for unemployed to pass their time. It would usually have a consultant and supply information and personal help. The inventory suggests that this type of project dominates. In the Evangelical Church of Westphalia, e.g., some 93 projects were traced of which 52 provided personal help and relief mainly (Vol. III, p.61). In the Church of Scotland 40 projects were traced of which 30 were of the relief-type (Vol.II, p.103). A government survey of local projects for unemployed people in the Netherlands revealed that 59 of the 735 projects traced were church-related. Of these 43 were giving "first aid" (Vol. IV, p.21; data on 1984).

But there were "transformative" church projects too, although far less than the others. An example is the "Community Recycling Opportunities Programme" in a town of Buckinghamshire (England). It promotes re-cycling by collecting waste material, which at the same time serves fund-raising for the community. It also engages in education on environmental conservation by visiting schools, assemblies, community groups. This also provided temporary jobs for some twenty people, many of whom found other jobs later on (Vol.II, p.49). Thus immediate help (job creation) was combined with intensifying community work and propagating a vision of what responsible production is like. For the purpose of the present Manual we suggest that this is what "transformative" church work is like: trying to spread a vision of another society while at the same time practical examples are given to the extent that a new life style is possible now already.

As was said earlier, there are many transitional ethical positions in between the "church-like" and the "sect-like" one. The survey of church responses to unemployment distinguished one, and called it the "reformist type" of response. Churches reacting this way do not foster a long term "transformative" view of another society with another economic system, but they do recognize that the unemployment crisis is connected with the structure of society. They make extensive analyses of the crisis and conclude to the need of socio-economic reform. In order to shortcut the exposition of this type, the scheme used in the MCKS survey in which the three types of church response are briefly sketched and mutually compared, is reproduced on p. 208 (Vol.I, p.23). It does not pretend to be exhaustive, but it does show that there are at least three possible options for the way in which churches might use their means in acting on a problem such as the present West European mass unemployment.

The survey does not go into details with respect to the strategies for which churches may opt. But there are some interesting observations. First, it appears that synods often go through a learning process. They often start with a relatively naive view of the problem and recommend relief work for the victims, the unemployed themselves. But a second and

Scheme 1: A Typology of Church Responses to Unemployment.

Types:	Relief Type	Reformist Type	Transformative type
Aspects of church responses	Aiming at direct help for the casualties of unemployment and at relief of the misery inflicted on them by unemployment.	Aiming at reintegration of the unemployed people in the employment system and at a reform of the existing socio-economic system and policies	Aiming at a structural and radical transformation of the present socio-economic and cultural system in the direction of JPSS.
Analysis	Little analysis	Start of more strucutral analysis	Extensive analysis
	Short description of the bad unemployment situation	Extended description of the situation and its consequences	Long-term and complex character of unemployment crisis stressed
	No criticism of government, business, or other powerful policy makers.	Criticism of policy makers	Social and economic order criticized
Theological reflection on values, the work-ethic and the role of the church	Charity	Justice, solidarity	Justice, participation and sustainability
	Traditional work-ethic	Revised work-ethic	New life-ethic
	Church has primarily a diaconal and pastoral role	Church must also ask attention for neglected problems	Prophetic and political role for the church; organise the poor
Recommendations on policies in general	Present policies must be more effective	Reform in existing socio-economic policies and system	Radical structural changes
Recommendations on church action to fight unemployment.	Particular pastoral care for individual unemployed people and extra diaconal help.	Schemes for unemployed people (education, creation of work, training).	Alternative activities aimed at structural and radical changes; political action without neglecting short-term help to victims.

third time they look at the problem, they start to see the interconnections with the economic system, the work ethic, the way of life in the whole society. This often leads to a development, from a "relief-type" to a "reformist" and sometimes to a "transformative" response.

Second, it appears that local congregations are much more hesitant and cautious. If they do decide to start a project on unemployment - this in itself already meets with much resistance - it usually is a "relief-type" project. It is not quite clear why this should be so but we may suppose that the knowledge and imagination needed to engage in "reformist" or "transformative" action, will often lack at the local level. Moreover, it is only realistic to be aware that "reformist" and "transformative" projects require much more means than centres for leisure activities and personal help.

This raises a weak point in most initiatives: the question of financing as well as available personnel and expertise. The review shows that these are usually obtained from external agencies. In the U.K. an important provider of funds is the Manpower Service Commission. It is a governmental agency from which many of the church projects must draw their means. This often leads to criticism, because it prevents them from projects which are not consistent with the government's policy.

Other problems rise because many subsidies are temporary only. Continuity, the development of expertise and experience in running a project, are severely handicapped in such cases. Sometimes projects lean heavily on voluntary workers; as soon as these get a job, the work is halted. It seems the latter problems are closely related to the third question to be asked in this Manual:

3. To what extent was the co-operation and support from church members obtained?

In the report on local activities in the Netherlands Reformed Church an account is given of all the resistance the (synodal) Department for Church and Society of that church encountered when encouraging work for and with unemployed people. The following aspects play a part, the author of this section, H. Noordegraaf, states:

- Since the industrial revolution there exists a separation between the church and work. The church concerns itself with the situation at home, not the working situation. (It) is usually present when matters like marriage, birth, etc. are concerned, but (there is)

  hardly any tradition in employment related issues.

- The social structure of the churches. The groups in particular struck by unemployment are hardly represented in the church population. So there is a social and cultural gap, which has to be overcome.

NB: I have no time to reproduce the information the survey gives on this aspect, more pecisely. This will be done for the final report (Mady L.Thung).

- Fear for polarisation. The struggle about political problems evokes serious division of opinions within the churches. People fear that the problem of unemployment might bring another source of conflict.

- The struggle for survival ... the membership of churches is receding; ...to keep the church machinery going asks a lot of attention and energy... .

- Theological opinions, in which the task of the Church is almost exclusively considered to be the proclamation of individual salvation, or the proclamation of general principles in the political and social field, to be turned into practice by Christians and Christian organizations, but not by the churches.

- Feelings of impotence. The problem of unemployment is of (great) complexity (and has) international aspects too: how can local churches possibly contribute to the solution of such a problem?

All this suggests that it is extremely hard to get the membership motivated for helping the efforts on the unemployment problem; this probably applies to pastors as well. And this, of course, weakens the effectiveness of the efforts by private church members, synodal bodies, industrial missions or other church-related agencies. It is one reason - we suggest - why projects for and with unemployed are very vulnerable: not funded out of regular church budgets and dragging on from one subsidized period to the other. This hampers the development of experience and continuity which is the more disastrous the more difficult the work is. Especially if problems of economic functioning and the structure of society are taken into consideration - which engenders the wish to go about in "formist" or "transformative" ways - the work becomes quite difficult. It then aims at trying to bring about real changes in society and this is a hard task which requires long time sustained and strategically thought out effort. A simple demonstration, a church statement, an exhortation, the organization of a public discussion, incidental lobbying: these types of effort are very important, but for effectuating real changes a whole strategy of such actions is needed, preferably in co-operation with as many coalition partners as possible. Reflection such as that above, on the obstacles to sustained action and the difficulty to attain real social and economic change, raises the fourth question of this Manual:

4. <u>The motivations, expectations and goals of action</u>

After all that is said above, one may question: are churches and socially active church bodies really aware, what a tough material they are concerned with when trying to tackle social ills? "One cannot break iron

by hand" is a dutch proverb, but the material out of which society is made, is tougher than iron.

Nevertheless, societies <u>do</u> change, as history teaches and most historical changes are "the result <u>of</u> human action but not of human design", to

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NB: This latter expansion had probably better be put at the end or the beginning of the Manual.

quote Adam Ferguson's famous adagium.

That means - even though the outcome may deviate from original intentions - a certain amount of planned and intended change is possible. The question is how much of this churches and church-related agencies may and should try to accomplish.

The statements by synods and other church bodies are quite explicit in this respect. They speak of the task of churches and Christians in "promoting and enhancing a truly human society" (Vol.II, p.15), or they say that it is important for the church to intervene in the organization and structure of social order (Vol.II, p.27). Sometimes slight undertones of national identity are to be heard: "As the national Church it is our responsibility and duty not only to call fellow Scots both inside the Church and beyond to a renewal of their sense of brotherhood and common purpose, but also to proclaim in our situation the relevance as never before of the Christian virtues of faith, hope and love. In these days of industrial crisis, with our whole economy at risk and the world economy itself being shaken, this must also mean a summons to a sharpened awareness of the socio-economic trends developing in our country and the world, to a corporate willingness to share, and to a disciplined determination to serve out a stewardship of the world's resources" (Vol.II, p.29).

The Synod of the Evangelical Church in Germany (EKD) considers the churches co-responsible with respect to the world of work and unemployment problems: "Churches have to contribute to answering the important questions of our time, e.g., on subjects such as the relation between work and capital, the work ethic, the democratic market system, the right to work, etc. (Vol.III,p.8). One of the more "transformative" church responses pleaded for a re-orientation of society and work in the Christian direction. The traditional model of life in modern industrial society - which is now in crisis - did not really correspond to the biblical and Christian tradition, it said. It followed Hannah Arendt, Karl Barth and Jürgen Moltmann and advocated a broader, more holistic understanding of work, one which takes into account the essentially social character of work, and reconciles the present division between work and leisure.

All this suggests a fair amount of influence from the churches on the state of affairs in society. In view of the fact that actual church projects are not so numerous - compared with the mass character of unemployment - and that most of these are of the relief type, it is important to consider the actual impact of all this. And it may be important to take into account all the other fundamental problems put before us, as touched upon in the Introduction. It is quite possible that to each of these issues (which can be extended by many more: racism, the arm's race, drug addiction and what not) the churches are equally over-charged as they are with respect to the unemployment crisis.

They all raise the question, how churches - on the one hand - may do their utmost to make the world more just, more peaceful, more respectful of nature and of creation, while at the same time being realistic as to what churches can accomplish. On the basis of the inventory "Unemployment: work for the churches" we would like to suggest that:

- church action may be more effective if a strategic selection is made

as to what a church should or should not tackle, based on a realistic assessment of its means, and well thought-out strategies;

- that it may have a higher quality if financed out of the regular church budget and supported by the church's membership;

- that a theological interpretation is needed which points to the importance of such action as a witness to the Christian hope without presuming that church actions will realize this hope;

- that, in the case of unemployment, transformative types of projects which give examples of what a society based on justice, peace and respect of creation, may look like, are the best way to serve this purpose. It is by such practical demonstrations, as a matter of fact, that a vision of another society can be spread. But the insufficiency of our practice - even if done in the cutest way possible - suggests that explanation, proclamation, liturgical expressions of faith are needed to make clear that we are concerned with hope, with a vision.

CASE STUDY: SICILY AND MILAN

Two Italian Challenging Engagements: Riesi and Cinisello

Sergio Brofferio

1. Introduction

This report is a case study of two major initiatives undertaken by the "Chiese Evangeliche Valdesi e Metodiste" and falling within the context of the Church and Society study plans.

I will cover the subject according to the interesting draft of Mady A. Thung proposing a "Manual for Church Action on Justice, Peace and the Integrity of Creation" but in a different sequence because I liked to put as a premise the motivations and the goals.

The cases presented are two challenging initiatives both started back in the 1960's and both still energetically operating and evolving due to the development of new issues, experience and means. The questions posed by M. A. Thung have, therefore, to be considered for the past, present and future. The two cases are presented separately while the final discussion and comments are unified.

2. The Christian Service in Riesi (CSR)

2.1 Geographical and historical background..

Riesi is a small town in the south of the island of Sicily. At the time CSR was started (1961) its inhabitants numbered about 25,000. It was, and still is, one of the most backward parts of Italy, "the last of the last" as was frequently stated by the founder of the CSR group.

Its economy was based on the production of wheat and upon old sulfur mines: the former couldn't be satisfactory because of the frequent droughts, the old agricultural equipment and the non-economic size of the field properties; the latter were soon closed because they were not competitive according to the European Common Market standards. Thus, the principal incomes for the population of Riesi were the salaries sent home by the emigrants to North Italy, Switzerland and Germany.

Education and culture were, therefore, at a very low level with about 25 classrooms for 2,500 children and illiteracy reaching 30 %. Medical care was limited to seven doctors and 70 % of the houses had no drainage. Most of the houses were composed of only one windowless room with a couple of beds for the entire family and often a domestic animal sharing the room space.

The administrative and political life was handled with very backward criteria while "the mafia" completed a static and hopeless situation.

Tullio Vinay, the pastor founder of CSR, stated in a couple of words the drama of this town: "no one takes any initiative, because there is no hope".

Nevertheless, a small Waldensian Community had existed in Riesi for a long time. They had founded a primary school which was closed just after the Second World War because of lack of funds and had produced several deaconesses for the Waldensian Church of Italy.

The founding group of CSR was formed of seven people, all members of Reformed Churches from Italy, Switzerland, Germany and France. They had had previous construction and community experience in an Agape, near Turin in North Italy. While they acted in cooperation with the established Church, at the beginning they undertook the project at their own risk.

2.2 CSR motivations

The motivations of those involved in the CSR project are a theological constant for the past, present and future, consisting essentially in the desire to commit oneself in the realization of the "new man" proclaimed by the Gospel when it was preached as a way to realize God's love. The clear setting of these motivations is necessary both for establishing the driving force of action and to set the limits of its success and failure. God's love requires us to act primarily on behalf of the least of this world as instruments of its justice but realistically in the context of the times and the places of action and reflection.

2.3 CSR up to now

In 1961 the founding group used interviews to study the social and economic background of the population. They learned a lot from the teenagers, as they innocently reflect the basic characteristics of the older people. The conclusion was that Sicilian history plus more recent bad experiences had destroyed people's motivations to improve themselves and left them without hope.

In the following years CSR participated in the town life trying to contribute to the solution of the many and different crucial problems, specifically to the unjust and very high tax system and to unemployment due to the gradual closure of the sulfur mines. Legal actions were started and temporary jobs were obtained thanks to connections with West German companies.

In 1962 a "settlement" was built outside the town, just within walking distance. CSR wanted in this way to demonstrate the starting of a new life. It was built in the open air on a small hill called Mount of the Olives.

The settlement is composed of different buildings, including a child care centre, a primary school and a vocational school for agricultural mechanics. On the cultural side there are: a library, a conference room and a bookshop. Other buildings were built later on so that about thirty people could live in the community and some additional agricultural activities were created by tomato cultivation and chicken breeding.

Only the medical care was left in the town centre for easier access.

All of these activities required well sustained financial resources which came mostly from outside of Italy, especially from Germany and also, at the beginning, from the WCC.

This operational structure allows a fairly close, daily contact with about one third of the population of Riesi. The aim is to demonstrate that even in a backward environment it is possible to develop a healthy economy and way of living. We can state that the activities described play the same role in the CSR as the "camps" do in the Agape or the "équipes" do for Cimade in France.

2.4 Present and future

In 1984 the founding group was changed, after nearly 25 years of activity. It was an opportunity to evaluate successes and failures, not only on a human scale but also on a level of witnessing.

A great amount of good work had been done: educational, sanitary, technical and cultural guide lines have been established through experience, but the degree of participation of the local population in active cooperation in the CSR is still too low. Biblically speaking, we could say that "the salt has not yet seasoned the whole". In addition, financial aid from outside is still too high.

In these 25 years the local environment has also changed so that new activities require an updated analysis of the environment and of the community of the Church itself.

It has to be remembered that the key factors with reference to the Word, the community life and the activity sectors, were never trivial either at the beginning of the CSR activity or nowadays.

Moreover, in 1984 (and today) it was observed that:

a) there is the need for a deeper level of biblical study. Biblical interpretation is weak and needs to be improved with a better and updated theological understanding;

b) the boom of the communities has finished and there is a return to individualism and to the monocellular family in the post-industrial society;

c) even within the Church itself there has been a critical attitude with respect to its social activities so that the work of the CSR cannot be taken for granted.

The new leadership group within the CSR is aware of all these problems, but it notices that in recent times volunteer activities have again given rise to increasing interest and that, even above our concern with the East/West challenge and the North/South contradictions, there is the desire in many of us, to take more seriously the teaching of the Sermon of the Mount.

The town of Riesi has also changed a lot in the last quarter of the century, in certain ways it has become more and more a European or even an American style town in terms of cultural values and mass consumption. On the other hand, most of the problems found at the beginning of the CSR have not disappeared, they have only changed colour. So Riesi can symbolically be considered as a hinge between North and South. This makes the ongoing work of the CSR worthwhile.

The motivations for the future have indeed not changed. There is always the need to live in the light of the Gospel message, to coherently live the "economy of gift" so that the CSR sees its role first of all as a laboratory or as a parable for the larger or mass Churches of the developed societies, which have lessened their vocational motivations. It is, therefore, of paramount importance that the present group members fully understand that the CSR is and will continue to be an adventure of faith and that it can only be evaluated in this light.

The strategy for the future requires an updating of the socio-economical analysis and of the connections with other religious and non-religious movements that share the same practical goals. These other local movements are still in their infancy or are very weak but they are struggling against unemployment and for peace and demilitarization; they demonstrate that in Sicily as elsewhere there is the potential for a better world, but they need more help than elsewhere.

A major change in the CSR has also to be implemented. In the past an efficient operational system was instituted and it functioned satisfactorily even in an underdeveloped environment, but the CSR remained a separate body from the local community, even from the local Waldensian community. To overcome this difficulty requires first of all that a large majority of the personnel should be local, at present only 50 % of the community are formed by Italians but even those are almost all from the most developed parts of Italy. Secondly, more of the CSR agricultural production should be absorbed locally or alternatively healthy commercial ways for exportation should be found. There is at present an overproduction of eggs which cannot be sold in the town neither for that matter in Sicily.

A new draft program was put forward in 1985 and it forms the backbone of the present activity. It suggests that

a) all activities inherited from the past should be continued. They have to be considered as both experimental and operational in order to be used as a reference point for other initiatives in the town and outside it;

b) in the next 10 - 15 years the majority of the personnel needs to come from the neighbourhood. If this does not happen it means as already symbolized that "the salt has not yet seasoned the whole". The local Waldensian community has to be contacted and more deeply involved in the CSR organization;

c) the cooperation with the Waldensian-Methodist Church of the southern Italian districts has to be strengthened;

d) new cultural and social activities have to be promoted, such as debates, a cine-club, etc., and contacts with local movements and cooperatives have to be established.
Moreover, internationalization within the Mediterranean organizations has to be increased as they share many of the same problems;

e) the CSR has to be utilized as a theoretical and practical school for deaconists of the Reformed Church in Italy.

3. The Community in Cinisello (CC)

3.1 Geographical and historical background

The second case study we examine is located in the most developed part of Italy, the region near to Milan. This has been an area of rapid industrial and trade expansion since the end of the nineteenth century. In particular the heavy metallurgy industry with its smelters and steel refinieries has developed here due to the availability of a cheap electricity supply and proximity to financial and consumer markets. After the Second World War these industrial settlements experienced a massive expansion with hundreds of thousands of immigrants arriving from the less developed regions of Italy.

Cinisello is a small town about 15 km from Milan. It is surrounded by other similar towns where many big steel, rubber and chemical industries are located. The main function of Cinisello became that of a dormitory for the workers who arrived from the North-East and from the South of Italy.

At the beginning of the 1950's Cinisello was just a big village in the "hinterland" of Milan with a population of about 18,000 inhabitants. In 1968, the year that the Community was founded, its population had grown to about 70,000 and it continued to expand slowly until the early 1980's when it stabilized on about 80,000. However, the rapid growth of Cinisello experienced a major reversal at the end of the 1970's, when industrial contracts were lost leading to the dismissal of many thousands of workers from the big Milan industries. This, as will be shown later, was also the cause of a decided change of activities at the Community in Cinisello (CC).

3.2 Motivations

It was in 1968 following the wave of the "French May" and the sharpened interest in social problems, that a group of intellectuals, teachers and technicians, some of them belonging to the Waldensian Community and others with a Marxist background, examined the possibility of implementing a social and witness project. Many of the goals of social action and community living were identical for Christians and Marxists. Moreover, both stressed the need for responsible action. While the Biblical studies and Christian witness, considered as the fundamental premise of the Waldensians, were welcomed by the Marxists as a widening of the cultural basis and as a living example of dialectic philosophy.

The aim of this witness in action project was to help the newcomers in an industrialized region to face their situation in the light of hope and within a human context.

3.3 CC up to now

The aim of the project was to perform a few integrated activities, which had to be simultaneously witness to the Gospel message for the believing members and an involvement in political and social growth for the Marxist members. These activities consist of:

1) the adult and youth school,
2) the cultural centre,

3) the biblical study centre and
4) the community

with most of the members participating in two or more activities. The founding group consisted of about twenty people, including a few children. It was headed by Giorgio Bouchard, a Waldensian Pastor with a solid social and historical background. They settled in a few apartments in a big "dormitory" building, rented by the Waldensian-Methodist Church of Milan.

These apartments were supplemented with a few additional rooms for community life (living rooms) and three class rooms. Families each have their own apartments, while single members have only one room. Meals and social activities are held in common. Community expenses are shared, requiring about 30 % of the income from each member. Social activities are financed by gifts whose source is shown in the following approximate table:

Foreign Churches:	50 %
Italian Churches:	25 %
Personal Gifts :	25 %

The school may be considered as the prominent activity of the CC because of its living connection with a sector of the population of Cinisello. In Italy compulsory school years are now eight, but nearly 50 % of the adult population has only five years of primary school, and 20 % of the young people, at present, do not complete their basic education. This fact led the CC to decide to offer the opportunity of getting a degree in one year to the adults and in two years to young people.

In 1968 the decision to establish the school was closely connected with political concerns and a critical view of the existing situation of workers. This permitted experimentation with new teaching methods and facilitated interaction with the working class. This raised a high degree of interest so that the number of students grew gradually from 15 in 1969 to 50 in 1980. The youth school became a necessity in 1975 because of quite different motivations of the boys and girls, although enrolment was never more than 20 students in each school year. It is interesting to note that the number of housewives gradually increased to become about half of the total, motivated by the desire to increase their knowledge in order to better follow their children's education.

The cultural centre promotes information discussions on the rights of workers, sanitary conditions etc. and holds political conferences on the situations in different parts of the world (Chile, Vietnam, Central America etc.)

The biblical study centre has the unique possibility of studying God's Word in the critical context of a non-religious society. This has given rise to a great number of reflective considerations on the capability and the limitations of the Christian message at present time.

The community life was, and is, a very efficient way of rationalizing one's activities with only a small personnel base. It nevertheless requires a strong psychological character so that its limitations must not be under-estimated.

3.4 Present and future

Times have changed in Cinisello as in Riesi: the factory is no longer the symbolic place of exploitation. The post-industrial society is gradually developing with its problems of newly marginalized subjects: old people, the sick (because of the weakening social state), the young and the unemployed. A recent interesting analysis carried out by the Catholic parish in Cinisello produced the following priority problem list: work, home, family crises, maternity, abortion, abandoned children, youth marginalization, drugs, old people, handicapped, mental diseases, people with no fixed lodging, immigrants from the third world.

It follows that there is plenty of work for the CC but it has to change from a centralized activity base to a more decentralized one. The present activities of the community are becoming more and more connected with the public institutions. A program of conference cycles began at the public library last year (e.g. "introduction to psychoanalysis", and "confrontation with God and love in daily life", are some of the subjects covered).

The school has seen a strong decline in the number of students. There are now only 20 adults and 8 young people registered so that it appears necessary to close down as there is no effective return. The decrease in school participation is not due to a decrease in illiteracy but rather to changing circumstances: second job, difficulty of getting permission from the employer etc. At present a few continuing education courses have been started, including English, Typing etc.; the basic idea is to promote as usual a critical approach to the dominant culture.

In order to help with the youth problems, the civic administration of Cinisello is opening a youth centre where local organizations are invited to cooperate. CC will engage in this new challenging initiative. Another sector which is seen as necessary to develop is that of providing hospitality for people from other communities, especially from abroad and from developing countries. This may open up the possibility of contacting new and interesting people.

However, these activities are tentative ones and it still remains necessary at present to redefine CC goals for a minimum period of at least five years.

4. Conclusions

These two studies are two dynamic initiatives operating in close cooperation within the context of the Waldensian-Methodist Church of Italy. In the past twenty years they have been a reference point for Christian witness and an example for other initiatives as (just to mention an important one), the Monforte Village near Naples, built after the 1980 earthquake.

Let us now concentrate on the basic aspects and problems of these human enterprises which are also expected to be a Gospel witness.

Both the social and the economic environment are continually changing. The interconnected cases and factors have to be monitored and hopefully understood and forcast by groups wishing to concentrate on the Gospel witness. Sociology, psychology and economy have, therefore, to be utilized as much as possible as useful instruments of comprehension.

Moreover, the theological implications of these changes have to be appreciated and this is where no outside help can be invoked.

One of the major tasks is, therefore, a sound and updated theological study. This can come from theologians, but not only from them because "the Spirit of God blows where it will". The Word of Biblical reference is both the imperative for engaging in witness activity and also the meter for measuring the whole activity in its justification and validation.

The community life is a typical Christian way of life, which is not a goal but a means to better cooperate in a common design. It is also a transformative example of life, but it must take into account different personalities and each person has the right to fit into the Christian Community (according to Bonhoeffer it has to be a spiritual and not a psychic community).

Moreover, the goals of the Gospel activities have also a dynamic balance in the sense that when you have reached a given satisfactory state, new conditions appear and then you must start over again. Other significant balances occur often: e.g. when the faith is weak the help of the institutionalized Churches is high and vice versa. These facts have to be theologically understood in the light of our finitude and of our creatureliness.

I hope that these examples will help us to increase our belief in the economy of gift which is the practical expression of our principle: "God is Love".

CASE STUDY: MARSHALL ISLANDS

Primary Health Care, Suicide Epidemic and Community Response

(compiled from various reports and presentations of Darlene Keju-Johnson)

Background

The Marshall Islands consist of some 34 atolls and some small, uninhabited reefs. In total the land area is only 176 sq. kms., the islands arrayed in a double chain about 1,300 kms long, in the midst of the world's largest ocean, whose area exceeds that of all the world's dry land. The islands have a population of about 31,000 people, about 50 % of whom are under the age of 14. Roughly 70 % are Protestant (affiliated with the United Church of Christ in the U.S.); 15 % are Catholic and the remainder from a variety of religious backgrounds.

In such an isolated and small place we are forced to see what is happening everywhere. Here it is isolated and, therefore, evident, while in most of the world these same processes are hidden among the overall, interlocking complexities of powerful cultural, social, religious, political, economic and industrial-military forces.

The well-being and very existence of the Marshallese people has traditionally depended upon two things: i) upon sharing and treasuring the physical resource base of land and lagoon, which provides the source of food, and ii) upon the closeness and social inter-dependence of the people. These values, though under pressure and largely overwhelmed by the U.S.A. military presence, still stand in stark contrast to the belief that security lies in political power, military might and nuclear weapons.

Darlene Keju-Johnson, a leading health care worker in the Marshall Islands, recounted the story she had first told at the VIth Assembly of the World Council of Churches at Vancouver.

Between 1946 and 1958 the USA created military bases and conducted a horrendous nuclear testing programme. 23 atmospheric nuclear tests were conducted on the northern atoll of Bikini and 43 nuclear blasts shook Enewetak. In March 1954 "Bravo", the largest of the hydrogen bombs was tested unleashing more explosive force than had been used in all the combined wars of history. Some islands were destroyed and disappeared totally from the map.

The former trusteeship situation under the U.N. came to an end with the compact of the Free Association Treaty between the USA and the Marshallese authorities. The population, now numbering some 37,000 people, has both internal and exterior political autonomy, while the USA have retained the right to lease the missile range on Kwajalein atoll for 30 years. The USA make payment of US $ 40 million annually to local authorities, plus making reparation payment into the fund for nuclear victims.

Kwajalein, the largest atoll in the world, became a missile range and a target area for ICBMs test fired from California, 6,000 kms away, and a test area for Star Wars technology, soon to be doubled in size. The

population from the 20 inhabited islets spread around its 282 kms long reef, were evacuated to Ebeye.

While the USA military base on Kwajalein enjoys air-conditioned luxury, a golf-course, swimming pool and sports facilities, these are banned to the Marshallese - even to the 900 or more who commute to work there. In contrast, Ebeye, 5 kms away, has been termed "The slum of the Pacific", 9,000 Marshallese have been crowded onto 26 ha., (an area 1,5 km long and 200 m wide). This is a density of over 55,000 people per sq. km.

Under these conditions the bacterial count in the lagoon is 25,000 times higher than that deemed safe, and primary health care has become of paramount importance. Darlene Keju-Johnson recounted the harrowing story of her sister's death, while medical facilities could easily have been made available in time.

There are basic geographic problems in the provision of equal access to health care. While 51 % of the population are on Majuro and Ebeye, the remaining 49 % reside on small and widely scattered islands covering an area of 500,000 sq. miles.

Problem: Suicides have become a serious problem among young males during the past 15 years. In the first 6 months of 1987, 10 Marshallese committed suicide, nearly equal to the all time high 11 in 1980. The community has become increasingly aware and concerned about this problem, and this concern has been an important factor influencing church involvement in the problem.

The Catholic priest on Majuro offers counselling to members of his parish, while the Protestant church has begun to take up the issue mainly as a result of concern from congregation members. The problem is now being addressed by Marshallese because of the striking toll in number of deaths of young people among the Christian community and the lack of church ability to respond in the past.

Action: Action has initially focussed on education. The fact that the churches have now recognized suicides as an urgent social problem reflects significant progress. This awareness has been stimulated primarily from the efforts of members of the community from Protestant, Catholic and other religious backgrounds - and is now gaining the support of wider church leadership. The Ministry of Health has organized a variety of programs that have served to integrate church/community action with ongoing programs. Workshops have been organized for the community concerning suicide intervention and prevention. Large turnouts of people have shown community concern. Both the Catholic and Protestant churches have been involved in the effort to stimulate community action - with the Health Ministry providing direction for activities.

An important effort has involved the activity of the Family Planning office's youth group, comprised of youth from various Christian denominations. Through outreach health education programs, the youth group aims its message specifically at other young people. The aim is to develop pride and identity among younger Marshallese through a three part message emphasizing: health, culture and religion. The youth program has been active for the past year and a half and has brought many new young people into the programs with encouraging results. The challenge is to broaden the scope of the program to reach more youth.

Future Action: The churches' support of active suicide prevention-intervention programs has been primarily moral in nature to date. The grass roots expression of concern within the congregations, however, is seeking to get the churches to lobby the Parliament to raise the drinking age from 18 years to 21 in view of the fact that all suicides involve alcohol consumption. In addition, church members are working with health services personnel on a volunteer basis to develop plans for outreach programs on suicide to many of the islands outside of Majuro. Finally, the Family Planning youth program extends its activities to many of the outer lying atolls where communities face the same problems as in Majuro.

From an international perspective, there are several support actions that could assist programs started in the Marshalls. The churches in the islands are extremely isolated. Therefore, information on actions taken in other regions of the world to deal with similar suicide problems would greatly contribute to public awareness and understanding. The World Council of Churches in particular could assist in this manner. Secondly, ecumenical training programs geared to educate members of the Christian community about the suicide question and appropriate responses - with a clear focus on action - could significantly contribute toward improving the community support base for Ministry of Health programs aimed at tackling the problem. The emphasis of any training scheme must be for women and youth in the community. In addition, off-island training with the theme of "building stronger families" aimed at specific youth would develop particulary lacking leadership skills in the larger sector of the population.

NUCLEAR POWER AND ENERGY NEEDS OF THE THIRD WORLD ECONOMIES

Prof. Kosta Tsipis

This working paper is a collation of data, information and tables, from various sources of open literature. It has been selected and compiled by Dr. Kosta Tsipis to stimulate discussion and debate during the Working Committee meeting.

The Chernobyl nuclear accident has contributed fuel to the debate about the appropriateness of nuclear power as a source of energy both in the industrial, and the Less Developed Third World. Opinion varies from the unflinching faith in nuclear power prevalent in France to the reversal of national policies on nuclear power we are witnessing in Sweden, Austria and Greece. Together with its disadvantages however, (the high cost of an accident in terms of treasure and public health, the unsolved problems of highly radioactive nuclear wastes and their disposal), nuclear power has advantages: it does not pollute the environment when operating normally, it does not consume oil (which is a finite world resource and must be preserved for uses other than burning it), and if properly managed, can provide cheap energy. Some advocates of nuclear power maintain that some current technologies, other than the current gigawatt pressurized light water reactors, can be more suitable and safer than existing plants.

In order to frame the discussion we have assembled here to pursue on the appropriateness of nuclear power, I have prepared this note, including data on the terrible accident, some data on the nuclear power industry in industrialized countries, and a brief discussion of the energy needs and energy production trends in Third World countries. The data set is by no means complete and it is not in support of one or another position. I hope that we can use this data in our deliberations to arrive at some conclusions jointly.

At 1:20 a.m. on the 26th of April, 1986, two large explosions destroyed one of the four power reactors at Chernobyl in the Soviet Union. The direct costs of the accident are high, 31 deaths as of September 1986, 1,000 in injuries, 135,000 people evacuated from their homes in the Ukraine, anywhere between 3 and 5 billion dollars for direct financial losses. But the long term implications are far greater, longer lasting and less clear. Most national nuclear programmes were far from healthy even before Chernobyl. Plant construction world-wide has fallen 45% from its peak in 1980 and is likely to be down much further by 1990. It now seems almost certain that the nuclear power share of world electricity will be lower in the year 2000 than it is in 1987. The Chernobyl accident has forced a reassessment of nuclear power's role. A growing portion of the scientific community and the public at large believe that nuclear power as it is now being developed is unacceptable. They argue that nuclear power's long term costs, and waste disposal, threat of terrorism, and accidents, exceed any conceivable benefit. In the other major accident of nuclear power plant at Three Mile Island, where the reactor's core partially melted in 1979 and heavily contaminated the plant, the reactor vessel and containment building kept all but a tiny portion of the dangerous radioactive material from spreading across the Pennsylvania countryside. That indicates that the gravity of an accident

is certainly a function of the technology used in the reactor. Soviet scientists estimate that between 3% and 4% of the radioactive material in the core of the Chernobyl reactor were released to the environment: about 7 tons of material containing 50-100 million Curries of radioactive isotopes, over 1,000 times the amount released at Three Mile Island. This release caused extensive exposure of environment to radioactivity but scientists believe that in most areas radiation levels will fall sufficiently to permit resumption of normal life within a year or two, primarily due to the diluting effects of rain, wind and plowing. Some problems may persist however. The measure of the costs in treasure of such accidents is given both by the Chernobyl and the Three Mile Island. The Soviets have mounted a massive clean-up effort at Chernobyl bringing in equipment, construction workers and military forces from all parts of the nation. Nearby forests will have to be raised and the topsoil removed and buried. The town of Prypiat may not be inhabitable and farmland in the area may have to be abandoned for many decades. In the Soviet Union alone the direct costs come to between 3-5 billion dollars according to independent economists. But the eventual costs may be far above even the larger estimate. The clean-up at Three Mile Island where the reactor core remained entirely within the protective vessel is still underway eight years later and clean-up costs will pass 1 billion dollars.

Rarely have so many countries been so effected by a single event. Nuclear power has been politically controversial for more than a decade and Chernobyl may have decisively tipped the delicate balance of opinion against it. The public dispute that ensued about nuclear power highlights a wider point: the question of how nuclear projects are managed and even whether they should be built, is fast being recognized as an international issue in which nations have a moral duty to consider the effects on neighbouring states.

Let us now review the situation in the nuclear industry. The overall global scale of the nuclear industry is highly impressive. As of mid-1986 the world had 366 nuclear power plants for a generating capacity of 255 gigawatts. But the experience of most nuclear programmes during the past decade can best be summed up in a single phrase - lowered expectations. In the early 70's when national nuclear programmes were being rapidly geared up planners had lavish ambitions. At one point four and a half million megawatts of nuclear power was expected to be in place by the year 2000. Actually now both national and international projections of nuclear capacity have fallen steadily during the past 15 years. Today it is projected that the world will have just 372,000 megawatts of nuclear power by 1990 and 500,000 megawatts by the year 2000. This is almost 90% below the expectations and the projections in 1974, and a 45% decline from the 1980 forecast. The United States which led the world into the nuclear age now appears to be leading it out of it. The last year a United States nuclear plant was ordered but was not subsequently cancelled was 1974. Meanwhile orders for 107 reactors have already been withdrawn. While in 1986 and 1987 23 nuclear power plants are scheduled for completion, only 4 are scheduled for completion after 1988. There is good reason for that. Nuclear plants in the United States that cost less than $200 per kilowatt in the early 70's, carried price tags of $750 per kilowatt in 1980, $1,900 per kilowatt in 1984 and over $3,200 per kilowatt for the 23 reactors scheduled for 1986 and 1987. The electricity that will be produced by these plants will cost on the average 12c per kilowatt-hour while new coal plants cost about 6c per kilowatt-hour and co-generation plants cost even less. Projected nuclear

costs elsewhere range from $2,000 per kilowatt in Canada to less than $1,000 in France but most are close to $1,500 per kilowatt, making nuclear power barely economical in some countries.

What distinguishes the American situation from other countries is that it is dominated by private utilities. Elsewhere public authorities are able quietly to pass the financial burden of nuclear power to the public at large. For example the French nuclear programme is highly centralized and run by State-owned companies. Reactors are built in just 6 years, and neither the government nor citizens groups can impede projects. But the French programme has run into trouble on a different domain. It is estimated that by 1990 it will have an overcapacity of 19,000 megawatts, equivalent to the output of 16 nuclear plants representing all the reactors ordered since 1979.

Plans for nuclear expansion in the Third World have also been drastically revised. This is a result not only of the difficulties that the nuclear industry is encountering in the industrialized world, not only as a result of Chernobyl and the ensuing fear for an accident, but mainly because the Third World's precious capital can be used for many more pressing needs and for power plants that cost less to install. The world in general is now in transition from the rapid growth of nuclear power of the late 1970's and early 1980's, to a very slow growth in the 90's. While 114,000 megawatts of nuclear capacity came on line between 1981 and 1985 world-wide, and 123,000 megawatts are scheduled for 1986 and 1990, just 22,000 megawatts is scheduled for 1991 to 1995 indicating a drastic slowdown of any further advance of nuclear power. This represents a 75% decline in the nuclear construction industry in just 5 years.

Opinion on the future of nuclear power is more divided now than at any other time in the past. No consensus exists among scientists, politicians, or the general public. Fewer engineering students enter the nuclear industry now than ever before, and fewer politicians advocate its expansion. One of the factors that has generated this reversal of enthusiasm and the rise in skepticism is that the world now has about 400 nuclear power plants but not a single long-term waste disposal programme yet in place.

It is true that so far at least the direct health impact of nuclear power onto the general public has been minor. The accident at Chernobyl occured at a power plant of uniquely Soviet design and therefore it can be argued that the risk of further adverse impact of nuclear power on the public health world-wide is smaller than what this accident would indicate. However what caused the accident at Chernobyl is exactly what caused the accident at Three Mile Island, which was operator error. Human beings are by nature capable of making mistakes that cannot be foreseen, and therefore human element can never be excluded from safety considerations. No one really knows how often nuclear disasters of that magnitude will happen. Government studies show that core damage in nuclear accidents should occur only once every 10,000 to 1,000,000 years of reactor operation. With the number of nuclear plants likely to be operating world-wide in the year 2000 this would mean 1 accident every 20 - 2,000 years. However the Three Mile accident happened after just 1,500 years of reactor operation, and the Chernobyl happened after another 1,900 reactor years of operation. If this accident rate continues, 3 additional accidents should occur by the year 2000 at which point, with over 500 reactors in operation, core-damaging accidents would happen

every four years.

What about the cost of such an accident? United States government studies show that a major accident near a large urban area with unfavourable winds could cause losses as high as $150 billion dollars and result in 140,000 delayed deaths because of cancers induced by the radioactivity.

So this is the situation with the nuclear industry that has left the world without a clear vision of where we should be going with respect to nuclear energy, and what the appropriate next step should be. Should we change technology, should we abandon the nuclear industry. But even more sharply it seems to me the question is of what Third World countries that have not involved themselves yet in nuclear power generation should be doing. This is something we should be thinking about. The decision to go or not to go nuclear, and if yes what kind of technology a Third World country should adopt, is clearly based on the current and future energy requirements of the Third World country and on the kind of energy source development that a Third World country has so far pursued. So in the second half of the paper I want to discuss very briefly what Third World countries have been doing and what options are there available to them.

Developing countries have over the past few decades devoted enormous resources to establishing electric power systems, which planners consider essential to the creation of modern societies. But financial difficulties of the energy-generation programmes, and increasingly frequent blackouts plague many of the countries. Electrical power generation systems in some cases are starting to drag developing economies down rather than support them, because of their enormous expense. For the few nations that have attempted to follow a nuclear path, the Chernobyl accident has forced them to reconsider drastically their choices.

Where are Third World nations in terms of energy production and consumption? Third World nations now use six times as much electric power as they did only twenty years ago. Compared with industrial countries however electricity plays a relatively small role in Third World economies. Wood and crops wastes still provide at least 12 times as much energy as electricity does in that part of the world. As of 1982 annual per capita electric use ranged from 1,400 kilowatt-hours in Argentina and 1,200 kilowatt-hours in South Korea, to 36 kilowatt-hours in Bangladesh and 23 kilowatt-hours in Nepal. These figures must be compared to the per capita consumption of 9,600 kilowatt-hours in the United States.

Third World power systems are heavily dependent on fossil fuels although hydropower is the predominant and most rapidly growing electricity source in many countries. In 1980, the most recent year for which data are available, hydropower supplied 41% of Third World electricity, coal supplied 15%, and oil 37%. Managed properly hydropower is a renewable energy source immune from fuel price increases and usually not connected to major accidents. Whereas North America and Europe have developed 60% and 36% of their hydropower potential by 1980 respectively, Asia had harnessed just 9%, Latin America 8%, and Africa 5%. In addition to hydropower Third World governments also wish to increase coal's contribution to electricity generation. The World Bank projects an expansion of coal-fired generating capacity in the Third World, excluding

plants in China, from 35,000 megawatts 1980 to 92,000 megawatts by the year 2000. China specifically, which has as much coal in reserves as the Soviet Union and the United States combined, plans to boost its coal generating capacity of about 50,000 megawatts to over 140,000 megawatts in the next 13 years. Most of the country's 12,000 megawatts of oil-firing generating capacity has already been converted to coal.

Coal development entails much larger environmental tradeoffs than hydro-power however. Northern Chinese cities are already heavily polluted by coal burning. In addition coal combustion is a major contributor to atmospheric carbon dioxide levels which many scientists believe are increasing so rapidly as to severely alter the Earth's climate within 30-50 years.

The cost of building additional generating capacity in the Third World has increased dramatically since the mid-70's. Hydro-projects which 10 years ago cost $800 per kilowatt are now costing $2-3,000 per kilowatt. Spending on Third World electrification now approaches fifty billion dollars a year. Third World power systems now account on the average for about one quarter of the public capital investment in developing countries, for up to 2% of their gross national product. World Bank projects that Developing Countries will have to invest $60 billion in electric powr each year in order to keep up with the demand growth of about 7% per year. These investment goals are for the most part unattainable and many utilities are not keeping up with demand in Third World countries. The problem is not simply money. Many Third World power systems have also outgrown their own management capabilities and they are increasingly short of technical expertise. Some utilities having relied for years on expatriate labour and temporary consultants now are short of people skilled in specialized fields.

While continuing the present mode of constructing large power systems maybe practically impossible for Third World countries, there are other alternatives that I would like now to mention and describe briefly. The most general measure that can be taken to lighten the burden of investment that Third World have to make to generate energy, is to conserve energy and to use it more efficiently. It is calculated that with reasonable conservation and efficiency promoting measures, Third World countries could potentially save 30% of all the money that they would have to invest if they were to keep up with the demand of energy as they are developing. More specific and more efficient ways of providing power are available in the case of rural electrification. There the direction that Third World countries could take would be the use of decentralized technologies of small power plants and to rely on renewable resources. An additional advantage of small power-generating units that can be fit best into the immediate needs of the community, is that such small projects can be built quickly. At a time when future energy trends and economic conditions are uncertain, small projects can be planned to match actual needs rather than tenuous forecasts. And that of course can save money both immediately and in terms of interest.

The most mature alternative to large power grids that could be used to electrify rural areas is small hydropower plants. The technology is quite well developed and the United States Agency for International Development has found that 10,000 megawatts of non-grid connected hydropower can be constructed in the Third World with very little investment.

A good example of how this can be carried out is the United Mission to Nepal project that has helped establish a private small hydro-industry and has installed 65 water-powered mills since the mid-70's. In China some 76,000 small hydropower plants supply almost 10,000 megawatts of power in rural areas.

Another technology available for rural electrification is the simplest and most direct, that is the combustion of biomass and then using the heat to run a reciprocating steam engine or steam turbine that then runs an electrical generator. In the Philippines for example there is a large scale effort to supply a central power grid with electricity from wood-fire plants. Another way to use biomass is to have it converted to gas or to liquid fuel and then running diesel engines with it that would power a generator.

A third source of power for small electrification plants in the Third World is wind power. We have an example of 2,000 small wind turbines in inner Mongolia which are used for lighting, running television, electrifying corral fences, and projecting movies. Grid-connected collections of wind generators which are known as "wind farms", have shown promise in California and may very well become a major source of power in India. Finally a new technology that can be used to provide electricity in special cases is solar photovoltaic cells that are quite expensive, for example the systems will cost about $10,000 per kilowatt installed, but for many rural areas that cannot be reached by any grid system and do not have the natural sources of either hydropower or wind power, solar photovoltaic cells may be the best solution both in terms of efficiency and in terms of investment.

Conservation and efficiency, small hydropower, wind, or solar electricity-generating plants however may eventually prove inadequate to provide the requisite power for rapid industrialization that we are experiencing in countries like Indonesia, Singapore or Taiwan. In these cases, especially in countries which do not have, or have exhausted the use of, hydropower, the nuclear dilemma must be faced. Also sooner than later most other countries will encounter the same grim reality. Coal, enough to run the economies of the globe for 800 more years if growth persists at current levels, causes very serious environmental problems from acid rain to the "hot-house" effect. Coal-burning and mining also routinely cause many more deaths and illness than nuclear accidents have caused.

Oil, a mere forty year global supply at current extraction costs, will inexorably run out. Nuclear power in some form then becomes an inescapable option. The obvious alternative is solar power but the density of sunlight (1 kilowatt per square meter at the top of the atmosphere, and half as much on the ground) forces a difficult trade of land use in many countries: food production versus energy collection. So we can postpone dealing with the nuclear power dilemma perhaps 20-30 years but not much more.

So to sum up, there is no simple prescription that can be handed either to the industrialized world on how to deal with nuclear powr or to the Third World on how to deal with electricity generation problems. The needs are vast and the available resources in the Third World are small and therefore careful choices must be made on where the money is to be

invested in the realm of electrical power generation. We must remember however that electric power is a large and crucial sector of most Third World economies and if it is poorly managed or mis-directed, the development process itself will be jeopardized.

Worldwide Nuclear Power Commitment, July 1, 1986

Country	Plants Operating		Plants Under Construction		Total Commitment	
	(number)	(megawatts)	(number)	(megawatts)	(number)	(megawatts
United States	92	78,618	28	30,849	120	109,467
France	44	38,948	18	22,210	62	61,158
Soviet Union	44	27,338	29	28,950	73	56,288
Japan	33	23,639	11	8,768	44	32,407
West Germany	16	16,114	7	6,877	23	22,991
Canada	17	11,145	5	4,361	22	15,506
United Kingdom	38	11,748	4	2,720	42	14,468
Sweden	12	9,435	--	--	12	9,435
Spain	8	5,682	2	1,979	10	7,661
South Korea	5	3,580	4	3,686	9	7,266
Czechoslovakia	6	2,380	7	3,230	13	5,610
Belgium	7	5,450	--	--	7	5,450
Taiwan	6	4,884	--	--	6	4,884
East Germany	5	1,702	5	2,532	10	4,234
Bulgaria	4	1,760	2	1,906	6	3,666
Italy	3	1,285	3	2,004	6	3,289
Switzerland	5	2,930	--	--	5	2,930
Finland	4	2,310	--	--	4	2,310
South Africa	2	1,840	--	--	2	1,840
India	6	1,244	2	440	8	1,684
Romania	--	--	3	1,680	3	1,680
Hungary	2	820	2	820	4	1,640
Argentina	2	935	1	692	3	1,627
Mexico	--	--	2	1,308	2	1,308
Poland	--	--	2	880	2	880
Cuba	--	--	2	880	2	880
Other Countries	5	1,883	1	300	6	2,183
World Total	366	255,670	140	127,072	506	382,742

SOURCE: "World List of Nuclear Power Plants," Nuclear News, August 1986.

Electricity Generating Capacity in Selected Countries, by Source, 1982

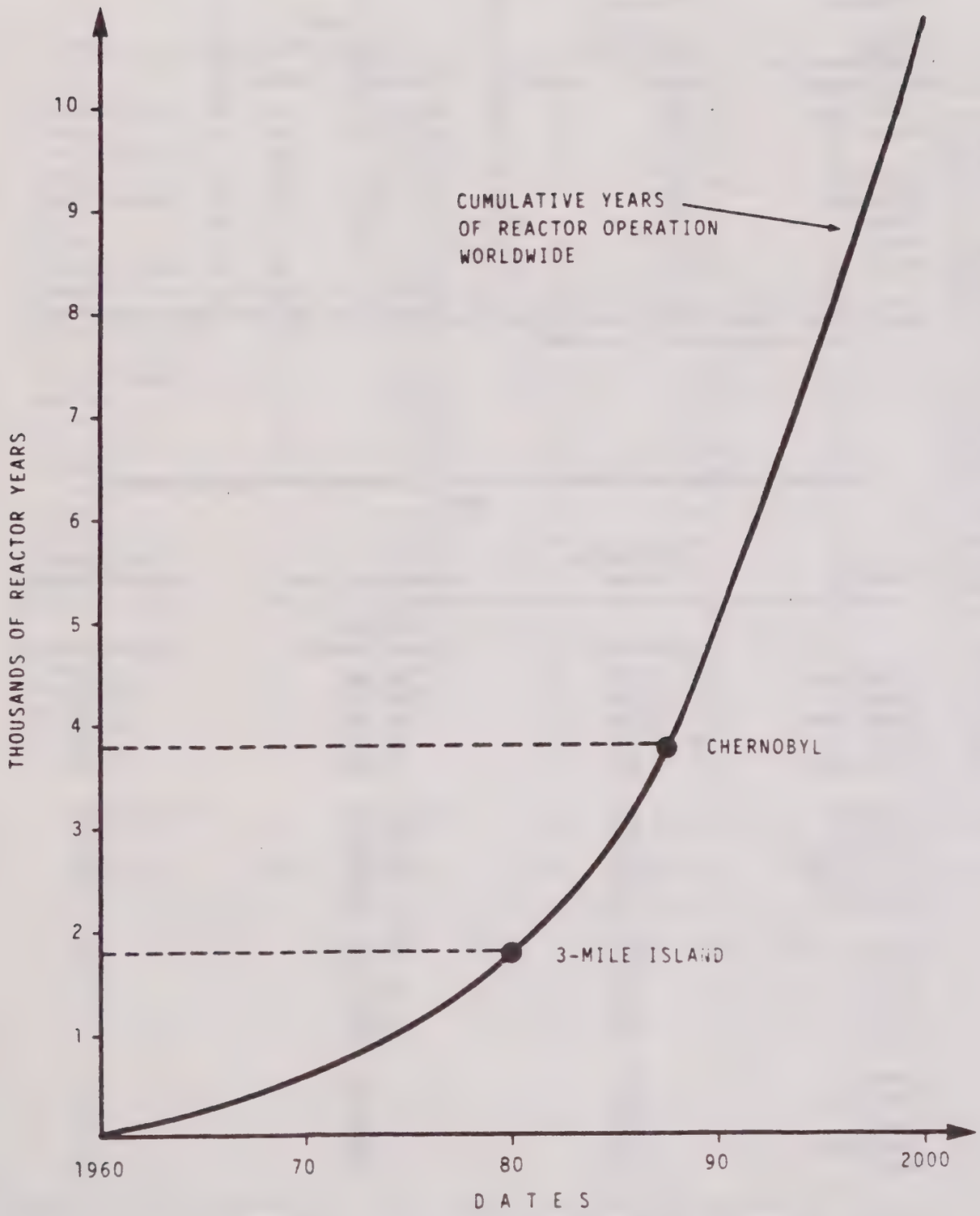
Country	Total Capacity	Share of Capacity Provided by Source			
		Fossil Fuel	Hydro	Geothermal	Nuclear
	(megawatts)	(percent)			
China	72,360	68	32	0	0
Brazil	38,904	15	85	0	0
India	38,808	64	34	0	2
Mexico	21,574	68	31	1	0
Argentina	13,460	48	49	0	3
South Korea	11,597	79	10	0	11
Philippines	5,054	64	25	11	0
Thailand	4,694	71	29	0	0
Colombia	4,660	36	64	0	0
Indonesia	3,513	83	16	1	0
Zaire	1,716	3	97	0	0
Zimbabwe	1,192	41	59	0	0
Bangladesh	990	92	8	0	0
Costa Rica	657	30	70	0	0
Kenya	574	33	62	5	0
Bolivia	508	44	56	0	0
Nicaragua	400	65	26	9	0
Senegal	165	100	0	0	0
Nepal	162	22	78	0	0
Niger	100	100	0	0	0

SOURCE: World Bank, "1982 Power/Energy Data Sheets for 104 Developing Countries, Washington, D.C., July 1985.

Per Capita Income and Electricity Use in Selected Developing Countries, 1982

Country	Per Capita Income	Electricity Use	Per Capita Electricity Use
	(dollars)	(million kilowatt-hours)	(kilowatt-hours)
Argentina	2,520	39,804	1,402
Brazil	2,240	151,721	1,197
South Korea	1,660	47,197	1,192
Mexico	2,737	80,589	1,103
Costa Rica	1,806	2,500	1,041
Zimbabwe	849	7,614	1,015
Colombia	1,300	22,564	837
Philippines	746	20,560	405
Nicaragua	802	1,153	400
Thailand	764	17,687	365
China	307	327,678	325
Bolivia	932	1,703	290
India	247	138,677	197
Zaire	203	4,392	143
Kenya	420	1,998	110
Senegal	541	633	105
Indonesia	524	12,722	83
Niger	338	350	60
Bangladesh	132	3,305	36
Nepal	136	356	23

SOURCE: World Bank, "1982 Power/Energy Data Sheets for 104 Developing Countries, "Washington, D.C., July 1985.


THOUSANDS OF REACTOR YEARS
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D A T E S

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Appendix no.1

PROPOSAL TO CENTRAL COMMITTEE ON THE ENVIRONMENT

While science and technology have produced many important new discoveries and material goods, the benefits of these are currently overshadowed by consequences which seriously damage the well-being of large sections of the human community and of the natural environment. This is in part due to the existing unjust imbalance of scientific and technological research and development between industrialized and non-industrialized countries (less than 5 % in the latter), with the result that the interests of the developed world are given priority over the needs of developing nations, and are often satisfied at the expense of vulnerable populations in both.

We wish to draw attention to the following potentially hazardous consequences and by-products of science and technology:

a) the rapid destruction and depletion of natural resources to a catastrophic extent.

b) the poisoning of oceans, seas and rivers, the atmosphere, soil and food resources by chemicals, heavy metals and radiation, especially that caused by nuclear testing.

c) the physical and social risks accompanying increasing militarisation on a global scale, including related risks caused by nuclear power.

We are concerned that the speed and direction of technology is leading to the obsolescence of skills and large-scale redundancies with consequent alienation, poverty and powerlessness, aggravated by the concentration of information and expertise in the hands of a priviledged minority. This undermines participation in decision-making via normal democratic processes. First and worse affected are the women, the young and certain indigenous groups.

Whereas women and young people in many industrial societies are predominantly unemployed, in developing countries they are often forced to work long hours for low pay under conditions which permanently damage their health. In developing countries workers are caught between the multinationals and the reluctance of their government to enforce legislation saveguarding their rights. They receive minimal pay and often quickly succumb to a wide range of physical, psychological and social disorders. Indigenous groups often suffer irreparable damage to their environment and way of life.

Damage to the physical environment has gone hand in hand with the degradation of human work. Many cultures perceive work as a duty or responsibility to maintain harmonious relationships in society, but in cultures where it has become competitive and divisive the struggle to find or retain jobs can become an instrument of exploitation. Where work is scarce and labour abundant workers will often endure oppressive measures by the

state or private enterprise in silence rather than assert their rights.

The WCC has co-sponsored with ecumenical partners (the society, religion and technology project of the Church of Scotland and the National Council of Churches of the Philippines) two regional work-shops that sought to understand the causes of the present situation and the responsibility of the churches. The second consultation described this responsibility as follows: "Committed as it is to the promotion of integrity and wholeness of relationships in all parts of creation, the church must struggle to protect and nourish the well-being of all people, especially those who fall easy prey to unjust structures and forces which divide and destroy. It must therefore of necessity take the side of the victims of hazards associated with unbridled technological growth. It must struggle to preserve and nourish our physical environment, which both guarantees the continuation of human life and is of value in its own right."

The Central Committee of the WCC recommends to the churches study, discussion and implementation of the recommendations of the joint WCC/NCCP consultation on new technology work and the environment, which are summarized in this statement. The full recommendations can be found in the report of the consultation published under the title Technology from the Underside.

The Central Committee recognizes the need to further enrich our understanding of the Integrity of Creation through a process of reflection and action and recommends that churches share with the sub-unit on Church and Society any information and documentation about relevant activities and reflections they are engaged in.

Appendix No. 2

AIDS AND THE CHURCH AS A HEALING COMMUNITY

The Executive Committee of the World Council of Churches, having received a report on the consultation held in Geneva in June 1986 on "AIDS and the Church as a Healing Community", wishes to call the attention of the churches to the urgency of this issue.

We call on the churches to respond appropriately to the the need for pastoral care, education for prevention and social ministry as called for by the consultation.

The Executive Committee also asks the General Secretary of the WCC to plan for appropriate follow-up of the recommendations of the consultation by the sub-units on Church and Society, Education, and the Christian Medical Commission.

The Medical Background

The consultation provided important medical information, including the following:

"The rate of spread of AIDS and its high fatality is frightening. AIDS is a viral infection which recently appeared, being identified only five years ago. It is sometimes considered to be the plague of the 20th century.

"According to reports from the World Health Organisation, AIDS is present on all continents where it is contracted by men, women and children, regardless of socio-economic status, education, culture or religion. The number of people ill is increasing geometrically, doubling every 10-14 months. At this time, the world has about 30,000 persons with AIDS (24,000 in the USA, 2600 in Europe and 1000 reported cases in Africa).

"This number is probably underestimated, as many countries have not been able to give complete information. The number of persons infected by the virus who have no clinical manifestations (so-called carriers) is unknown. It probably numbers in the millions. It appears that a great number of people are infected annually. The rate of infection may vary significantly from one place in the world to the next.

"In Africa the illness is contracted primarily by a heterosexual population; in Europe, North America and Oceania primarily by male homosexuals and intravenous drug users. Mortality is high reaching 75% one year after diagnosis and 100% three years after diagnosis. No efficacious treatment has been found. The hope of a vaccine is very uncertain. So far only preventive measures can help to stem the epidemic."

The Church as a healing community

The consultation identified the following theological foundation for the Church as a healing community: "In the mysteries of life and death we encounter God; this encounter calls forth trust, hope and awe rather than paralysis and immobilization. Those we cannot cure we can support and sustain in solidarity: "I was hungry... thirsty... a stranger... naked ... sick... imprisoned, and you fed... clothed... took care... visited' (Matthew 25).

"The AIDS crisis challenges us profoundly to be the Church in deed and in truth: to be the Church as a healing community. AIDS is heartbreaking and challenges the churches to break their own hearts, to repent of inactivity and of rigid moralisms. Since AIDS cuts across race, class, gender, age, sexual orientation and sexual expression, it challenges our fears and exclusions." The healing community itself will need to be healed by the forgiveness of Christ.

The consultation called on the churches to undertake the following:

1. Pastoral Care

"The people of God can be the family that embraces and sustains those who are sick with AIDS or AIDS-related conditions, caring for the brother, sister or child without barriers, exclusion, hostility or rejection.

"Death is a mystery. We are angry and helpless when faced by its reality. We need to acknowledge our helplessness and not deny it. This has particular significance as we share the experience of ministry with persons with AIDS and as we are ministered to by them," as we grow with them in our Christian understanding of death in the light of Christ's death and resurrection.

2. Education for Prevention

"To assure high quality information on the disease, we invite the churches to participate actively with the health professions, local governments, where possible, and local community agencies in programmes of prevention education. We invite the churches to use the World Health Organization and its networks of local resources.

"AIDS is preventable. Society must concentrate sufficient resources on its prevention. This will involve measures that should reasonably be adopted by all: carriers, the sick, current high risk groups and the general population, since the latter includes many undetected carriers. It also calls urgently for responsible forms of behaviour by all, and for the improvement of physical and social-economic conditions in many parts of the world.

"Preventive measures and altered behaviour patterns must address the different factors that favour the transmission of the virus; it is necessary, therefore, that the different modes of transmission prevalent regionally be clearly described and understood."

3. Social ministry

"Given the widely varying valuations of some of the issues related to the disease, member churches and ecumenical councils will have to be rigorously contextual in their response. We affirm, however, certain commonly held values, especially:

1. the free exchange of medical and educational information about the disease within countries and across borders;

2. the freedom to pursue research about the disease;

3. the free flow of information about the disease to patients, their families and loved ones;

4. the right to medical and pastoral care regardless of socio-economic status, race, sex, sexual orientation or sexual relationships;

5. the privacy of medical records of persons with AIDS or AIDS-related Complex or positive antibodies.

"Since AIDS is a global epidemic, effective action by churches and individual Christians must extend not only to the AIDS neighbour closest at hand, but also through effective global collaboration to the stranger on the farthest side of the world."

The consultation also called on the churches "to work against the real danger that AIDS will be used as an excuse for discrimination and oppression and to work to ensure the protection of the human rights of persons affected directly or indirectly by AIDS."

The Executive Committee also wishes to call to the attention of the churches these further concerns expressed by the consultation:

"to confess that churches as institutions have been slow to speak and to act; that many Christians have been quick to judge and condemn many of the people who have fallen prey to the disease; and that through their silence, many churches share responsibility for the fear that has swept our world more quickly than the virus itself.

"to affirm and support the entire medical and research community in its efforts to combat the disease.

"to affirm that God deals with us in love and mercy and that we are therefore freed from simplistic moralizing about those who are attacked by the virus."

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